

American Militarism in US Congress:

Another Military Transformation
from the 103rd to the 112th Congress

By

[Copyright 2015]

KeeHyun Ahn

Submitted to the graduate degree program in the Department of Political Science and the
Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the
degree of Doctor of Philosophy.

Chairperson Mark R. Joslyn

Co-chair Michael S. Lynch

Don Haider-Markel

Jiso Yoon

Adrian R. Lewis

Date Defended: March 26 2015

The Dissertation Committee for KeeHyun Ahn
certifies that this is the approved version of the following dissertation:

American Militarism in US Congress:

Another Military Transformation
from the 103rd to the 112th Congress

Chairperson Mark R. Joslyn

Co-chair Michael S. Lynch

Date approved: March 26 2015

Abstracts

The armed forces are maintained in two ways –in both the military way and the militaristic way. In this sense, every nation which has its own military has specific features of militarism, regardless of how dominant these features are over other parts of the society. The U.S. has its own type of militarism in the military and the society. In the United States, there is a belief that the US military should be number one in the world. This American public belief takes various shapes of military imperatives which connect every part of society with military and lead them to cooperate and support the realization of these imperatives.

In Part I, the dissertation shows that military transformation in the post-Cold War era is an example that shows how American militarism works in American society. During this period, public opinion showed a positive and significant correlation with defense spending. Within the US military, American Militarism has led the Department of Defense and military services to the endless preparation for a future adversary in the situation of strategic uncertainty after the Cold War era. Defense related industries have strongly supported the military's effort to be number one in military affairs. In the political arena, the congressional committee which is responsible for national defense seems inclined to be conservative in the matter of ideology – more conservative than the median in the House of Representatives.

In Part II, the dissertation explores how American Militarism has influenced on the decisions of each legislator in the roll call votes on amendments regarding defense authorizations and appropriations bills. The result reveals that authorization process is more predictable than appropriation process. Furthermore, the result shows that the amount of PAC contributions to each legislator is a significant factors to determine legislators' choices in roll call votes in authorization process even though ideological aspect of individual legislators ideology is still influential in decision making of each legislator.

Acknowledgments

When I hesitated to jump in the journey, My Lord – Jesus Christ showed me the way to go.

During the journey, my wife and son – Jisun and Joonmo – always stayed with me and encouraged me. They are my great partners of the journey. We are the best team ever. My parents supported the journey and prayed for their son and his team in a long distance.

In the journey, I met Great mentors. My advisor, Professor Mark Joslyn, advised me to stay positive even during the most difficult period of the journey. Professor Michael Lynch showed me where and how to explore during the journey. Professor Adrian Lewis gave me a compass to sail in the ocean of military history. Pastor Lanny Maddux did not hesitate to read all the text and gave me advices for better English writing.

Table of Contents

Chapter 1. Introduction: US Armed Forces, Defense Policy, Congress and military transformation	1
1. Overview of the dissertation	3
2. Defense policy as a policy domain	5
3. Military Transformation and American Militarism	8
A. F-35: Product of Military Transformation after the Cold War	10
4. Politics of Weapon Procurement Programs	11
5. Congressional Budgetary Process and Defense Acquisition	13
6. Summary	15
 Part I. Politics of Military transformation after the Cold War ..	17
Chapter 2. Historical Overview of Military Transformation and Militarism	17
1. RMA, Military Transformation, Military Reform?	18
2. Theories of Military Transformation	20
3. Militarism in the United States	24
4. Social and Political Context of the Military Transformation: What is the background of the military transformation?	28
A. Congress	29
B. Public opinion	30
 Chapter 3. Militarism and Military Transformation – The US Military	34
1. The Base Force Plan	35
2. The Bottom-Up Review	39
3. The Reports of Quadrennial Defense Review 1997	44
4. The Reports of Quadrennial Defense Review 2001	48

5. The Reports of Quadrennial Defense Review 2006	50
6. The Reports of Quadrennial Defense Review 2010.....	53
7. The Reports of Quadrennial Defense Review 2014.....	54
8. Summary.....	56

Chapter 4. Militarism and Military Transformation – Congress and Public **58**

1. Committees’ Responses to Military Transformation	60
2. House Armed Services Committee Composition	93
3. Public Opinion on US military and Defense Budget	97
4. Summary	108

Chapter 5. Militarism and Military Transformation – Defense Industries **112**

1. JCIDS, DAP, and PPBES	112
2. Military Transformation and Defense Industries	119
3. F-35 JSF Program: A legacy Jet Fighter or Representative of Military Transformation	123
A. Why does F-35 matter?	123
B. F-35 as a weapon system	126
C. A-X/A/FX and MRF: the Origins of the F-35	127
D. JSAT and JSF: Joint-ness and Industrial Bases	129
E. The Fifth Generation Jet Fighter: where does it come from?	131
F. Military Transformation, American Militarism and JSF F-35 Program	134

Part II. Congressional decision making process **142**

Chapter 6: Congressional Decision-Making and Budgetary Process 145

1. Defense Policy as a Federal Policy 145
2. Congress as a Political Institution 148
 - A. The Process in which a Bill Takes in House 148
 - B. Partisanship (Party politics) 152
 - C. Ideological Position of Individual Legislator..... 153
 - D. Armed Services Committee and Economic Benefits 153
 - E. Militarism and Congress 154
3. Federal Budget Process 155
 - A. Authorization Process and Appropriation Process 155
 - B. Categories in Defense Budget 156
 - C. Annual Budget Process 157
4. Pilot Study: Institutional Level Analysis and Two Budget Processes .. 159
5. Summary..... 166
6. Factors and Hypothesis 167

Chapter 7: Method and Data 172

1. The Scope and Unit of Analysis 172
2. Estimation Model 173
3. Dependent Variable..... 173
4. Independent Variables 175

Chapter 8: Analysis 181

1. Estimation of Models 181
2. Party Status 182
3. Ideology 184
4. Military Contracts to Congressional Districts 185

5. PAC Contribution.....	187
6. Term based analysis	188
Chapter 9: Conclusion	191
Reference	205
Appendices	224

Table of Contents (Figures)

Figure 1-1. National Security Council	12
Figure 2-1. Gallup poll regarding number one military in the world	30
Figure 2-2. Gallup poll about ‘military strong enough’	31
Figure 2-3. Gallup poll regarding ‘important to be number on military in the world’	32
Figure 4-1: ‘Too little’ and ‘Too many’ military spending (1972 to 2012)	103
Figure 4-2. Estimation of defense spending	105
Figure 5-1. DoD Acquisition Decision Support System	113
Figure 5-2. Rumsfeld Memorandum Regarding Defense Acquisition	115
Figure 5-3. Interaction between JROC and DAS	116
Figure 5-4. Evolutionary Acquisition, Spiral Development, & P3I	118
Figure 6-1. RICE Cohesion Score	152
Figure 6-2. Model 1: Logistics model for estimating the result of roll call vote	159
Figure 6-3: Majority and Minority party unity and probability of passage	161
Figure 6-4: % of votes not predicted by ideology and probability of passage	162
Figure 6-5: Rice no. (Dem vs. Rep.)	164
Figure 6-6: % of votes not predicted by ideology of each Amendment in Authorization bills	165
Figure 6-7: % of votes not predicted by ideology of each amendment in Appropriation bills	166
Figure 6-8. Theoretical Diagram of factors	170
Figure 7-1. Model 1: Estimation of defense vote index for Authorization process	173
Figure 7-2. Model 2: Estimation of defense vote index for Appropriation process	173

Table of Contents (Tables)

Table 4-1. House vs. Armed Services Committee	95
Table 4-2. Republican Party: House vs. Committee	96
Table 4-3. Democratic Party: House vs. Committee	96
Table 4-4: Effect of Public Opinion and other factors on Defense Spending	106
Table 6-1. Budget Categories	156
Table 6-2. Result of Logistic Model	160
Table 7-1: Pass or Fail	174
Table 7-2. Summary of amendments by amount of budget changes	175
Table 7-3: Majority and Minority	176
Table 8-1: Result of Linear Regression Model: Authorization bills only	181
Table 8-2: Result of Linear Regression Model: Appropriation bills only	182
Table 8-3: Result of Linear Regression Model: Authorization bills only, Term by Term	188
Table 8-4: Result of Linear Regression Model: Appropriations bills only, Term by Term	189

Chapter 1. Introduction: US Armed Forces, Defense Policy, and Congress

“U.S. and allied air superiority can no longer be taken for granted,” Granger says. “If we hold fast together, the F-35, along with the F-22, will provide dominance in the skies for the next half-century.” - Rep. Kay Granger (R-TX 12)

“We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.” - U.S. Constitution.

The US Congress must authorize funding for all federal programs. Defense policy is one important area of federal policy¹ that is under the control of the budgetary authority of Congress. Congress influences weapon procurement programs – one of the core parts of defense policy – through legislative voting in both the House and Senate. Furthermore, the results of these legislative actions determine the capabilities of the military service to perform their missions and the fate of various weapon procurement programs. Consequently, Congress plays an essential role in the US defense procurement process and, more broadly, in the process of developing US defense policy and national military policy. The process by which Congress authorizes new weapons programs can be especially controversial (Deering, 1989).

¹ **Federal (national) policy** — a broad course of action or statements of guidance adopted by the government at the national level in pursuit of national objectives. (source: DOD dictionary-JP 1)

Theoretically, one might assume that the defense policy needs to be purely based on effectiveness and rationality, since such a basis will lead a defense policy that best protects a country from external threats (Vagts, 1959; Millett, 1987). However, this is never the case, and recent congressional votes on specific weapon procurement programs show little evidence that Congress' primary concern is military effectiveness. The history of legislative actions on the current F-35 Joint Strike Fighter Program is one example of Congress not purely focusing on military effectiveness budgetary efficiency.

Even though the F-35 Lightning II is being developed as the next generation jet fighter (fifth generation), several evaluations of this jet fighter have been negative and not suitable for the time – next generation (Gearan, 2009; Trimble, 2010; the New York Times, 2010²). First, several flaws found during test flights and experiments have raised concerns over the performance of F-35 (Government Accounting Office (GAO), 2006; the New York Times, 2010; Trimble, 2010a; 2010b; Warwick, 2011; Charette, 2012). These concerns and flaws led to redesigns of F-35 and delays in production (Trimble, 2010; 2011; GAO, 2012; Regan, 2012). Second, the cost of development and production keeps increasing due to these delays (GAO, 2006; 2008; 2012; Office of the Under Secretary of Defense (Comptroller), 2011; Trimble, 2011). Third, despite negative evaluations, military buyers have not reevaluated their decisions to purchase the F-35. Three military services – the Navy, Air Force, and Marine Corps have already determined to buy this jet fighter (Kovach, 2010; Tirpak, 2010; Thompson, 2010; Weisgerber, 2012; Department of Defense, 2012). Both chambers of Congress have resisted calls to halt the program and the Department of Defense still supports keeping this program alive (Gates, 2011; Flight International, 2012; Marshall, 2012). International buyers have also remained determined to purchase F-35s, despite negative reports (Ben-David, 2010; 2011; Hoyle, 2010; Trimble, 2010; Department of National Defense (Canada), 2011; Chuter, 2012).

² "Lockheed F-35 Fighter in Deficit Panel's sight." The New York Times, Nov. 10, 2010

Why haven't potential buyers of the F-35 – foremost, Congress – changed their minds in the light of these concerns and what made them choose the F-35 initially?³ In order to answer why buyers still support the F-35 despite its flaws, it is necessary to consider the context in which the F-35 program has developed, evaluate the characteristics of the program as a part of defense policy, and analyze the positions and perspectives of major participants in defense policy such as the Department of Defense, the military services, Congress, and industries involved in manufacturing the F-35. Furthermore, I will focus Congress' influence on weapon procurement programs including the F-35 program in this dissertation, primarily because of the key role that Congress plays in the weapon procurement process.

1. Overview of the dissertation

My dissertation will explore how Congress influences US defense policy. To evaluate the role of Congress, I will examine the legislative voting behaviors of members of Congress on annual defense budget. I will also scrutinize how Congress has influenced US defense budget regarding military procurement programs through congressional budget process.

Conventionally, studies on legislative voting behaviors have focused on the results of Congressional votes in the two different levels within Congress – institutional level and individual legislators' level (Mayhew, 1974; Fenno, 1978; Fiorina, 1989; Deering, 1989; Poole and Rosenthal, 1991, Shepsle and Boncheck, 1997; Krehbiel, 1998, Cox and McCubbins, 2005; Crespin and Rhode, 2010). The studies regarding the institutional level have been centered on the vote results made by Congress as a whole legislative institution in order to specify the conditions that generate passing or failing legislation (Deering, 1989; Poole and Rosenthal, 1991, Shepsle and Boncheck, 1997; Krehbiel, 1998, Cox and McCubbins, 2005; Crespin and Rhode, 2010). Meanwhile, the studies focusing on individual legislators' level have dealt with attributes of each individual legislator in order to discover causal factors that

³ Several great weapon systems have been developed from deeply flawed R&D efforts and flawed procurement procedures. F-4 Phantom is an example.

determine individual legislators' voting choices in roll call votes. (Mayhew, 1974; Fenno, 1978; Fiorina, 1989; Cox and McCubbins, 2005).

However, when it comes to specific policy domains such as defense policy, these factors seem too broad to explain or describe the legislative voting behaviors of members of Congress. In order to analyze Congressional influence on the defense policy, it is necessary to scrutinize the characteristics of the defense policy first. In addition, traditional factors that influence legislative behavior – such as party, ideology, and committee – need to be examined in the context of the defense policy.

My dissertation consists of two parts. The first part of the dissertation will focus on scrutinizing the characteristics of the defense policy and shedding light on the relationships between the congressional votes and the defense policy. In this part, I attempt to approach the defense policy of the United States from the perspective of military transformation. On the top of this, I draw implications that an American Militarism in Congress has influenced the defense policy – specifically, on the military procurement programs.

The second part will focus on how Congress has influenced the decision-making process regarding the military procurement programs. I first look at how decisions on defense budget were made at the chamber level. I then consider how individual members of Congress make decisions on roll call votes regarding defense policy issues.

My dissertation is distinguished from the previous literature in the following points. First, my dissertation focuses on the military issues, specifically weapon procurement programs. Scholars in congressional studies have established theoretical foundations by studying the organization, roles, and behaviors in Congress with broad and general perspectives. Moreover, studies on specific policy areas have been executed on these theoretical foundations. However, military issues have not covered sufficiently within the literature, compared to other policy areas. Second, my dissertation covers the period after the Cold War. During the Cold War period, military issues got much attention in political and

academic arenas. Plenty number of studies on military issues have been executed during the Cold War period. However, after the Cold War ended, the research interests have shifted to other issues such as national economy, ethnicity and other social issues. By shedding light on the defense policy after the Cold War, I shows that there was a trend of military transformation during this period and Congress also had participated in establishing the current military powers of the United States by funding various weapon procurement programs. Third, this dissertation distinguishes two different phases of federal budget process - authorization and appropriation. It shows that influence of each factor in roll call votes is significantly differed in each phase of federal budget process. The difference of these two phases of budget processes should be considered in the future studies.

2. Defense policy as a policy domain

As the starting point of the dissertation, I contend that the defense policy can be divided into two parts in accordance with the two distinct challenges that defense policymakers deal with – external front and domestic front. The defense policy primarily functions to deal with foreign threats, but in order to function well, it should be supported by the public and needs to be based upon domestic foundations such as popular support and economic capabilities (Huntington, 1961; Janowitz, 1974; Hays et.al., 1997). Generally, defense policy can be defined as a broad course of action or statements of guidance for military institutions to deal with two fronts – external and internal – in pursuit of national defense objectives.

The preamble of the U.S. Constitution spells out six purposes and goals that the United States of America should pursue as a nation. Common defense is one of them, which means to secure “the American people as a whole” from threats (Huntington, 1961). Considering the fact that there are other goals that primarily concern domestic issues such as a “more perfect union, justice, domestic tranquility, general welfare, blessings of liberty for ourselves and our posterity”, it can be concluded that the threats that are confronted by *providing common defense* should come not from inside the U.S. but from outside.

In order to provide common defense against the external threats, military institutions have to face the external front to protect their societies and foreign interests from the external threats. Defense policies to deal with the external front search for source of threats and develop military strategies, doctrines and technologies to respond to the external threats (Kaufman et.al., 1985; Hays et.al., 1997). These tasks are purely the jobs of professional soldiers, who are responsible for developing their own ways to fight against threats (Huntington, 1961; Sarkesian, 1999). Moreover, the professional soldiers do not need to negotiate with their principals while dealing with external threats⁴. What they need to do is find a logic that can persuade their principals such as citizens, the President, and members of Congress (Huntington, 1961; Sarkesian, 1999). This is the core of military professionalism.

Nonetheless, when it comes to building up the foundation of defense policy, the story is quite different from dealing with foreign threats (Kaufman et.al., 1985; Ripley et.al., 1992; Hays et.al., 1997; Rundquist and Carsey, 2002). Considering the fact that the foundation of defense policy comes from inside the United States, military institutions have to meet the challenge of the internal front on the way to building up military institutions' capabilities to perform their institutional role, which is to protect their societies. First of all, most of the military organizations consist of U.S. citizens. Second, the defense budget that operates the military comes from the federal budget that is paid by the citizens. Third, most weapons that the military uses are produced in the U.S and U.S. industries. Last, the agency that is responsible for defense policy is overseen and controlled by the representatives of the U.S. public – the U.S. Congress.

Building up the foundations of defense policy are purely political tasks that require promoting public support, making contracts with industries, and mostly persuading the Congress and the President (Ripley et.al., 1988; 1992). These are the core tasks of civil-military relations. Defense policies for the internal front seek to create favorable political environments, public climates and economic conditions

⁴ Sun Tzu, *Art of War*. Chapter I; Carl Von Clausewitz, *On War*, Book I. This does not mean military strategies are not influenced by public or representatives of people. It means that the logic on which strategies are based are more important than any other factors because military affairs are a problem of death and life.

within the society in order to build up the necessary military capabilities such as *effective weapon systems, high quality human resources, and cohesive, sustainable, and well-functioning Organization*.

Consequently, in order to comprehensively understand defense policy, it is not sufficient to merely look at the execution of military strategies. We must analyze the inner dynamics of civil- military relations – the relationship between defense policy and its domestic foundations.

If this is the case, how can we analyze defense policy in the framework of civil-military relations? If we approach civil-military relations broadly, we can draw three major relationships between military and civilian authority depending on how we define either military or civilian authority (Huntington, 1961; Janowitz, 1973). First, the relationship between society as a whole and its military members; second, the relationship between political authority and military agency (Herspering, 2005); third, the relationship between the representatives of the public and the military agency which is in charge of military affairs (Nielson, 2009). In the U.S., the first relationship can be visualized as the relations between the U.S. public and military as a whole; the second relationship could be the one between the President and the department of defense; the third relationship can be considered as the relationship between Congress and military organizations, including the Department of Defense and subordinate military services.

In the first relationship, the main issues have been how the public perceives their military and how public opinions affect defense policy and military strategies (Burnstein et.al., 1978; Hartley et.al., 1992; Groeling et.al., 2008) However, the effect of public opinion on defense is inclined to be indirect rather than direct, because there are various mechanisms that transmit public opinions to the military organizations (Burnstein et.al., 1978; Hartley et.al. 1992). Consequently, in order to understand the effect of public opinion on defense policy in detail, it is necessary to scrutinize these mechanisms that link the public to the military organizations.

There are two main institutions that perform these mechanisms: the Presidency and Congress (Hays et.at., 1997). In the organizational aspect, the Presidency has executive power over all the military

organizations; the President can appoint the high profile military officials such as the Secretary of Defense and the chairman of the Joint Chiefs of Staff (Moe, 1999). Moreover, considering the fact that the President is the commander - in - chief of all the military, the Presidency is at the top in the aspect of military strategies, and the relationship between the Presidency and military can be the proper level of analysis for strategic issues (Deering et.al., 1989).⁵

However, the President- military is not the proper level of analysis for defense policy as a whole. Some other issues that are closely related to the public or constituents – such as military procurement, Military Base Realignment And Closure etc. – have been checked and affected by Congress (Deering et.al.1989; Hays et.al.,1997). Moreover, even on strategic issues, Congress exercises authority by requesting executive branches to attend hearings and report the causes and consequences of related issues (Ripley et.al., 1992; Hartley et.al., 1992). Consequently, in order to understand the inner dynamics in the process of developing defense policy and civil-military relations, it is necessary to consider Congress as an influential actor in defense issues.

3. Military Transformation and American Militarism

In order to analyze civil-military relations and defense policies for the internal front, I consider the framework of military transformation. In the second chapter, I argue that recent trends of military transformation can be a driving force in developing defense policies for both the development of strategies / doctrines & technologies and build-up the necessary & effective military capabilities.

Theoretically, each era of military transformation gave a birth to representative products of time period when they were drafted and pursued (Paret, 1986; Millett, 1987). For example, the military

⁵ Due to the professionalism in military affair, the President has a control over both strategic and structural issues in military affairs. But being compared to strategic issues, the structural issues are more inclined to be overseen by Congress, due to the fact that Congress has the power of purse to authorize budget for dealing with structural issues.

transformation of the Napoleonic period changed the relationship between the armed forces and the national society (Paret, 1986). The rise of nationalism in 18th century France transformed the armed forces into the military forces dedicated to their nations. It also allowed Napoleon to develop and lead the French armed forces to their full potential (Paret, 1986). Napoleon used these transformed forces brilliantly and gained one-sided military victories during the period (Paret, 1986).

In the early 20th century, Germany attempted to transform its armed forces with industrialized technologies and doctrines optimizing for these technologies (Paret, 1986; Millett, 1987). During the early years of both the World War I and the World War II, the German armed forces gained swift victories by making use of new technologies and doctrines designed to integrate these technologies into military organizations (Paret, 1986; Millett, 1987).

In the United States, military transformations have given birth to the development of representative weapon systems⁶ to equip the US Armed Forces. Since the end of the Second World War, the US armed forces have put enormous efforts and resources for maintaining the national status as a global military superpower. On the way to achieve this national objective, the U.S. attempted to transform its weapon systems and military organization into ideal shapes to respond coming threats and to suppress the adversary during of the time (e.g. During the Cold War., it was the Soviet Union.). The products and legacies of these attempts of military transformation have been the representative weapon systems of the periods (Kagan, 2006).

By analyzing the trend of military transformation since the end of the Cold War, I discover the link between weapon procurement programs and the trend of military transformations: for example, F-35

⁶ Every weapon systems have their own cause – reasons to be created. First, one weapon system could be designed to respond to specific threats. Second, one weapon system could be created to test certain technologies. Third, one weapon system could be developed to realize certain military doctrines -- ways to fight in the battle field. If one weapon system has a specific cause to be created, the weapon system might be called as representative weapon system of the specific cause.

Joint Strike Fighter is a useful case study to explain how the military technologies that was borne out of a perceived transformation have influenced the military in the period after the Cold War.

A. F-35: Product of Military Transformation after the Cold War

Considering that F-35 is the representative product of the military transformation after the Cold War, analysis on F-35 JSF program lead us to discover the link between F-35 and the military transformation after the Cold War.

According to the official websites and several media coverage on F-35 Joint Strike Fighter Program⁷, F-35 has prominent features as a jet fighter that can be considered it as a representative weapon system of the military transformation. First, F-35 is the fifth generation jet fighter which was designed to feature stealth capabilities (Briganti, 2012; CRS,2011; 2012). Second, unlike other military jet planes, F-35 is the *Joint* strike fighter which means that this jet fighter was chosen and will be purchased by different military services, meeting need of all (CRS,2011; 2012). This is against the traditional practice of military services. Third, F-35 is an international jet fighter that thirteen countries have chosen to participate in the development and they have planned to purchase the jet fighter (CRS, 2011; 2012). Certainly, this program is one fine example of representative weapon systems that contain the core of the recent military transformation.

Furthermore, I attempt to search for the hidden driving ideational force that created the trend of the military transformation rather than just accept the trend as granted. One possible answer is the

⁷ <https://www.f35.com/about/history> (as of Feb. 28. 2015); <http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20); <https://www.jsf.mil/index/htm> (as of July 2013: The website was removed); CNNmoney, 2001, *Defense Dept. taps Lockheed-Martin for \$200B Joint Strike Fighter*, October 26, 2001: 6:09 p.m. ET (<http://money.cnn.com/2001/10/26/companies/strikefighter/>); Robert Wall and David A. Fulghum, 2001, *Lockheed Martin Strikes Out Boeing*, Aviation Week's BUBAI 2001 (<http://aviationweek.com/site-files/aviationweek.com/files/uploads/2015/01/2001-%20Lockheed%20Martin%20Wins%20the%20JSF.pdf>);

traditional American belief – specifically, since the Second World War – that its armed forces must be the first ranked and finest armed forces in the World (Vagts, 1959; Bacevich, 2005; 2008; Lewis, 2012). This belief has been a basic foundation to build-up and maintenance of US Armed Forces. Furthermore, it also has generated the critical link between military services and defense industries (Bacevich, 2005; 2008; Lewis, 2012). If this tenet of the American culture of war are fused into one element through the link, eventually these elements might generate heated debates on the Revolution in Military Affairs in the late 1990's and the early 2000's.

The debates were not confined to those who were involved in defense related affairs professionally but also was widely spread along the US public. What enabled these widespread debates was a cultural trait rooted in the American society (Vagts, 1959; Bacevich, 2008; Lewis, 2012). Consequently, this cultural trait has sustained since the end of the Second World War. The belief and cultural tenets is unique American form of militarism developed during the Cold War and the militarism has influenced the American people who have grown to accept large defense budgets and the status of the most powerful nation-state on Earth (Bacevich, 2005; Lewis, 2012). Considering the electoral connection between members of Congress and their constituencies (Mayhew, 1974; Fenno, 1978; Fiorina, 1989), the American militarism could influence decision making process in Congress.

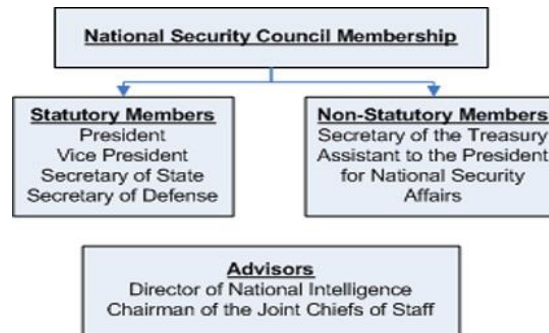
4. Politics of Weapon Procurement Programs

In the second part of my dissertation, I approach defense policy by analyzing the decision making process in the executive branch and the legislative branch. Furthermore, I clarify how defense policy connects to participants during the formation of defense policy.

In the United States, national defense is one of the institutional missions of the US government. The US Constitution gives the executive branch the responsibility of developing and executing defense

policy. The Department of Defense is the primary military institution that is in charge of American national security.

<Figure 1-1. National Security Council>



Source: http://faculty.nps.edu/dl/pfp/articulate/03_players/player.html

The Department of Defense is the part of the executive branch of the US government and it is under the authority and direction of the President. The Department of Defense is run by the Secretary of Defense, who answers directly to the President. The President has the National Security Council (NSC) to advise him of security matters. The NSC consists of the Secretary of Defense, the Secretary of State, and the Director of the National Intelligence (DNI), Chairman of Joint Chiefs, the NSC chief advisor to the President, and other parties selected by the President.

On the other hand, the legislative branch of the US government has authority to approve and oversee defense policy drafted in the executive branch. Considering the legislative authority of Congress over governmental affairs, Congress is the second most influential participant in the development of defense policy. Congress has the authority to pass bills which define the authority and resources for the executive branch to pursue their policy goals. For example, the annual federal budgets, which define the amount of funds to be spent by the Department of Defense, are determined jointly by both chambers of Congress.

When the US government develops defense policies to deal with external fronts, the executive branch has the primary responsibility and policy initiative to develop the strategies and doctrines through the Department of Defense. Even though Congress can sometimes hold congressional hearings on the military strategies and doctrines, the roles and authority of Congress over this domain has been limited for several reasons (Deering, 1989). However, when it comes to developing defense policies for the internal fronts, the Congress has more influence. Congress establishes the authorized strength of the Armed Forces including the number of men, tasks, and equipment, etc. Congress also has to approve the promotion and approval of senior leadership of the military. Moreover, it approves the budget to pay for what it has authorized. Congress has the power of purse to control the Federal budget process (Huntington, 1961; Janowitz, 1974; Hays et.al., 1997). When it comes to the issue of defense budget, Congress can influence the defense policy by drafting, amending, and passing the defense budget bills.

5. Congressional Budgetary Process and Defense Acquisition

Annual defense budget consists of three major parts: ‘maintenance and operation,’ ‘weapon procurement programs,’ and ‘Research, Development, Test, and Evaluation (RDT&E)’ (Choshroy, 2011; Lindsay and Ripley, 1992). The budget items in *the maintenance and operation* category include the salaries for military personnel and the cost of maintenance and repair for already purchased equipment and existing organizations (Choshroy, 2011; Lindsay and Ripley, 1992). The items in this category have been considered as the minimum-essential cost for military organizations to perform their institutional roles. Traditionally, these items have been approved without serious debates or consideration except for some extreme cases such as post-war periods and financial crises.

RDT&E is the stage to develop and test weapon systems that fit the requirements of the Department of Defense and each service (Choshroy, 2011; Lindsay and Ripley, 1992). Considering the fact that every weapon system of the US military have passed through this phase, RDT&E can be

counted as a part of weapon procurement programs or at least, it is closely connected to weapon procurement programs (Choshroy, 2011; Lindsay and Ripley, 1992).

Weapon Procurement Programs are the programs that were previously chosen by the US government in order to equip the US military. The US military chooses the weapon systems that fit to its requirements and Congress confirms the purchases through the budget authorization process (Deering et.al, 1997; Sinclair, 2005; OMB, 2008). Even after the budget authorization process, Congress can adjust the amount of budget through the appropriation process (Deering et.al, 1997; Sinclair, 2005; OMB, 2008).

Considering the characteristics of budget categories, new weapon procurement programs receive a great deal of the attention from members of Congress. This is in part because items in this category are closely connected to the economic benefits of members' districts. Since each member of Congress seeks to maintain a positive electoral connection with their constituents, congressional interests in weapon procurement programs, might be more considerable than that on other areas of defense budget. In addition, military related industries involved in weapons procurement are likely to encourage members to seek funding for industries located in their districts, further increasing the likelihood of Congress wanting to remain influential in the process of making the defense budget. The defense industry recognizes the importance of the communities and constituents. Moreover, it acts to gain and maintain support for its programs.

For example, the F-35 Joint Strike Fighter program is a weapon procurement program to equip three of services⁸. This characteristic led the program to more complicated situation. Three services have been tangled into the program in order to fit the F-35 into their requirements. Moreover, more than 46 states have economic connections with the program⁹. Since the F-35 ISF program is intricately connected

⁸ Christopher Drew, "Costliest Jet, Years in Making, Sees the Enemy: Budget Cuts," in *New York Times* Published: November 28, 2012 (http://www.nytimes.com/2012/11/29/us/in-federal-budget-cutting-f-35-fighter-jet-is-at-risk.html?_r=0)

⁹ Rajiv Chandrasekaran, "F-35's ability to evade budget cuts illustrates challenge of paring defense spending," in *Washington Post* on March 9, 2013 (<http://www.washingtonpost.com/world/national-security/f-35s-ability-to->

with industries in a large number of congressional districts spread across the United States, it is no surprise that the program has received a great deal of attention from Congress. Since the industries that produce it will provide jobs to constituents of members of Congress, there is an automatic incentive for members of Congress to support the development and purchase of certain weapon systems. By analyzing the F-35 JSF program, I can show how Congress can be involved into military procurement programs. This Analysis will offer the background knowledge to understand Congressional influence on defense policy, specifically weapon procurement programs.

Considering the facts described above, which factors are the most influential determinants on how members of Congress will vote on bills regarding military procurement programs? My thesis is that national security is but a secondary matter, and a unique form of American militarism¹⁰ exerts greater influence in the House of Representative. American militarism has four components: culture, economic, ideological, and political.

6. Summary

My dissertation is intended to provide understanding about defense policy and congressional influence on it. I contend that military transformation after the Cold War has fostered development of 'the state of the art' weapon systems and the current weapon procurement programs are the legacy of the military transformation of this period. I also provide evidence to prove that American militarism in the Congress is the ideational and cultural driving force on the military transformation. Furthermore, I argue that American militarism has existed as ideological element in Congress and it will be discovered through legislators' roll-call votes on amendments to annual defense budget bills. Additionally, I also attempt to distinguish two congressional budgetary process - authorization process and appropriation process and

evade-budget-cuts-illustrates-challenge-of-paring-defense-spending/2013/03/09/42a6085a-8776-11e2-98a3-b3db6b9ac586_story.html)

¹⁰ American Militarism is a tendency to manifest the United States in a romanticized view of soldiers to achieve ideal goals of democratization and civilization; a tendency to see military force as the truest measure of national greatness; and a tendency to have oversized expectations regarding the efficacy of force. (Bacevich, 2005)

shed light on the difference between each other. I contend that authorization process is more likely to be under the effect of American militarism than appropriation process. I am confident that I can prove these arguments by approaching this issue from the perspective of institutional congress as well as that of choice of individual legislator.

Part I. Politics of Military transformation after the Cold War

Chapter 2: Historical Overview of Military Transformation and the Development of Militarism

After the Cold War ended in the late 1980's, the US government has attempted to change its military strategy and force structure. In 1992, the Joint chiefs of staffs developed the Base Force Plan¹¹ as a part of national military strategy. The plan was mostly about downsizing of the US military, but this plan suggested the four supporting capabilities as the necessary conditions for the military forces to be effective after downsizing. The Bottom - Up Review (BUR)¹² in 1994 attempted to find the right force structure for the military strategy, and further mentioned the modernization of military forces to complement the force structure. The term of military transformation appeared for the first time in the first Quadrennial Defense Review (QDR)¹³ that was released in 1997. Since then, military transformation had been the primary defense policy to prepare for the future until the Department of Defense recalibrated the focus of defense policy from *military transformation* to *evolution of military forces* in the QDR published in 2010¹⁴. Although they have different titles, there is a sharing point: all of them were plans to transform the US military.

¹¹Joint Chiefs of Staffs, 1992, *THE NATIONAL MILITARY STRATEGY of the UNITED STATES*, pp. 17-22

¹² Les Aspin, 1993, *Report on the Bottom-Up Review* (Department of Defense), pp. 27-32

¹³ William S Cohen, 1997, *Report of the Quadrennial Defense Review* (Department of Defense), Section VII, pp. 39-52; Department of Defense, 2001, *Quadrennial Defense Review Report* (Department of defense), V. Creating the U.S. military of the 21st Century, pp.29-48; 2006, *Quadrennial Defense Review Report* (Department of defense), Reorienting Capabilities and Forces, pp. 41-59; 2010, *Quadrennial Defense Review Report* (Department of defense), the Evolution of the Forces in Rebalancing the Forces Guiding, pp. 17-48, 2014, *Quadrennial Defense Review 2014* (Department of defense), Chapter III. Rebalancing the Joint Force & Chapter IV. Rebalancing the Defense Institution, pp. 22-52.

¹⁴ Department of Defense, 2014, *Quadrennial Defense Review 2014* (Department of defense), Chapter III. Rebalancing the Joint Force & Chapter IV. Rebalancing the Defense Institution, pp. 22-52.

In this chapter, I analyze what these plans were designed to achieve and how different these plans differ from each other. On the basis of this analysis, I scrutinize policy makers' motivations for developing these plans for the post-cold war era changes in the US military and how major participants interact in the pursuit of military transformation.

1. RMA, Military Transformation, Military Reform?

Before evaluating the aforementioned plans, it is necessary to clarify the definition of similar concepts. When a serious change in military affairs occurs, three similar concepts are used to describe the change: Revolution in Military Affairs, Military Transformation, or Military Reform.

First, a revolution in military affairs (RMA) is the idea that dramatic changes in any number of variables of war lead to fundamentally and radically different approaches to the entire military structure and its modus operandi.¹⁵ In this definition, the cause of an RMA is "dramatic changes in variables of war," and the result of an RMA is "fundamental and radical change of approaches to the military structure and the way to use the military." It means that the perspectives on the effectiveness of military organization are changed by variations of factors that determine the character of war. However, this definition of RMA does not necessarily specify the final shape of military organization and the way it operates. Moreover, the direction of changes are primarily subject to those who initiate and carry on the change in the military structure and the way to use it. In other words, a RMA does not mean a specific plan to bring changes to military structure or its functions. Rather, RMA is a broad trend of change in the way to approach to military affairs.

¹⁵ Bernard Loo(Ed.), 2008, "Introduction: Revolutions in military affairs: theory and applicability to small armed forces," in *Military Transformation and Strategy: the Revolution in Military Affairs and small State* (Routledge: London) pp. 1-11.

As opposed to revolution in military affair, military transformation means a specific plan to bring changes to military structure and its functions¹⁶. When a dramatic change in variables of war occurs, the plan to change depends on how a subject perceives the change in variables of war. To be a dominant player in the changed environment of war, a subject pursues a RMA by reorganizing past perspectives in military affairs. On the way to pursue RMA, the subject develops certain plans to transform its military that is suited to the changed environment of war. The specific plans can be considered military transformation. While RMA means a broad change of perspectives on military affairs, military transformation means specific plans of a subject to transform its military. For example, the American military transformation in the post-Cold War era was the plans of the US government to transform its military into the ideal of the RMA as a final in order to be a dominant player in the changed environment of war that was sparked by technological innovations in the end of the 20th century¹⁷.

Military reform is another concept to describe a significant change in military affairs. Compared to military transformation, military reform is the plan to change or reform a system damaged by the defects which make the system non-workable as planned or not function as effectively as possible¹⁸. Military reform is the process to remedy the causes of malfunction by changing the entire system, while military transformation focuses on changing the military to function well in the changed environment, military reform pinpoints specific problems that ruin the effectiveness of military organization. In the plan of the United States' military transformation, a number of military reforms were included to remedy problems discovered on the way to pursue RMA.

¹⁶ Bernard Loo(Ed.), 2008; Frederick Kagan, 2006, *Finding the Target: The Transformation of American Military Policy* (Encounter book); Michael Vlahos, 2003, *Perspectives on Military Transformation: Toward a Global Security Force* (Johns Hopkins University Applied Physic Laboratory)

¹⁷ Frederick Kagan, 2006, *Finding the Target: The Transformation of American Military Policy* (Encounter book); Major, Aaron. "Which Revolution in Military Affairs?: Political Discourse and the Defense Industrial Base." *Armed Forces and Society*. 35, no. 2 (Jan 2009): p.333; Beier, J. Marshall. "Outsmarting Technologies: Rhetoric, Revolutions in Military Affairs, and the Social Depth of Warfare." *International Politics*. 43, no. 2 (Apr 2006): 266-280.

¹⁸ Winslow T. Wheeler and Lawrence J. Korb, 2007, *Military reform: a reference handbook* (Praeger: Westport CT)

Military transformation is the right concept for analysis, considering that this dissertation focuses on how the US government attempted to change its military and factors. RMA is too broad to conceptualize the changes in military affairs of one country – the United States –, because RMA is a kind of trend. At the same time, military reform is too narrow to define the changes in military affairs of the US government, because its plan does not focus on specific defects in its military organization. Thus, the Military Transformation is taking place in context of the RMA. For the remainder of this research, I define *military transformation as a specific plans of a country to transform its military in order to be a dominant player in a new environment of war caused by dramatic changes of factors that determine the nature of war.*

2. Theories of Military Transformation

Wars are the collisions of forces. They do not break out with only one side. They require at least two sides. Since death and survival are determined by results of wars, each side must defeat others to guarantee their survival. So, wars are competitions for surviving in nature. To defeat others, they have strong tools – military or army –, which must be stronger than others. In addition to that, it is necessary to maintain a level of *military effectiveness* sufficient to defeat others. Consequently, every military must be effective and strong.

Theoretically, sufficient military effectiveness is not determined by one factor rather by various factors that constitute warfare and wars themselves¹⁹. The most significant of those factors also has changed throughout the history of wars, and the factors themselves have also changed²⁰. In order to maintain the effectiveness of military forces, the factors of warfare must be understood and military organizations need to be changed when some significant changes occur in these factors. The concept of

¹⁹ Bernard Loo(Ed.), 2008, pp. 1-11.

²⁰ Bernard Loo(Ed.), 2008, pp. 1-11.

RMA captures well impact of the changes in factors of warfare and how these changes deeply influence the way to evaluate the effectiveness of military organization. Through history, humanity has gone through RMA. The three most notable were the transformation from hit and thrust weapon to chemical based weapon which is gunpowder²¹, from gunpowder weapons to nuclear weapons²², and the development of airpower²³. All these three technological inventions significantly revolutionized the conduct of war.

In practice, not every change in military affairs is considered as an RMA. It is still debatable how to judge whether significant changes in military affairs is an RMA. As an analytical framework, Eliot Cohen offered three criteria to examine whether a change in military affairs is an RMA²⁴: to be considered as a RMA, first, it has to change militaries' shape – organization and weapon systems; second, it has to change the processes of battles – the way militaries behave in the battle fields; third, it has to change the outcome of battles – what defines the winner and loser, and how militarily effective the winner is against the loser. With the framework of Elliot Cohen's three criteria, it is possible to discover the impact of each change in military affairs on warfare and wars themselves. Even though there is no orthodox answer in the literature of military history regarding historical moment brought RMA like changes, there has been a consensus that the following two historical turning points can be considered as recent examples of RMA: Napoleonic warfare in the 18th century, German Blitzkrieg theory in the interwar period²⁵.

²¹ Gunther E. Rothenberg, 1986, "Maurice of Nassau, Gustavus Adolphus, Raimondo Montecuccoli, and the "Military Revolution of the Seventeenth Century," in *Makers of Modern Strategy: from Machiavelli to Nuclear Age* (Peter Paret ed.)(Clarendon Press, London), pp. 32-64

²² Lawrence Freedman, 1986, "The First Two Generations of Nuclear Strategists," in *Makers of Modern Strategy: from Machiavelli to Nuclear Age* (Peter Paret ed.)(Clarendon Press, London), pp. 735 – 778.

²³ Giulio Douhet, 1927, "The Command of the Air," in *Roots of Strategy Book 4* (David Jablonsky ed., 1999,) (Stackpole Books, PA), pp. 267 – 307.

²⁴ Eliot Cohen, 2008, "Change and Transformation in Military Affairs," in *Military Transformation and Strategy: the Revolution in Military Affairs and small State* (Routledge: London) pp. 22 - 26.

²⁵ Bernard Loo(Ed.), 2008, pp. 1-11.

Both cases well satisfy the criterion. In the case of Napoleonic warfare in the 18th century, it changed the composition of military organization in France. The French Army of Napoleon consisted of citizens who were filled with loyalty toward France. The French Army was motivated by patriotism. This gave them an advantage over the mercenary army of other European states. Concept of citizenship mattered. These loyal citizens enabled the French Army to be organized into smaller units which were called divisions instead of corps²⁶. The smaller the unit, the more mobile and agile the unit. The division system made the French army more mobile than any other militaries in Europe during the period of the Napoleonic war²⁷. By combining infantry units with other arms such as artillery and cavalry into a division, the French Army maximized the effectiveness of various arms²⁸. These changes in the French army also brought changes in doctrines and operations in the battle fields. The French army took advantage of the internal line of communication. The French Army moved their divisions faster than the Coalition Army's reaction, achieving the relative superior rate of forces in the battle fields. By using combined arms tactic, the French Army defeated the Coalition Army. The outcomes were also lopsided. Even though the Coalition Army was much larger than Napoleon's French Army, the French Army crushed the Coalition Army in most battles before the defeat at Moscow.

In the case of the German military during the Interwar period, the invention of the tank and airplane in the First World War and development of combined armed operational doctrine also known as Blitzkrieg revolutionized warfare during the Second World War²⁹. The attributes of the tank³⁰ – speed & mobility (quickly moving), protection, survivability (armored) , fire power, and surprise – were combined with the attributes of airplane³¹ – speed, fire power, freedom – in a coherent doctrine that maximized

²⁶ Peter Paret, 1986, "Napoleon and the Revolution in War," in *Makers of Modern Strategy: from Machiavelli to Nuclear Age* (Peter Paret ed.)(Clarendon Press, London), pp. 123 - 132.

²⁷ Peter Paret, 1986, "Napoleon and the Revolution in War," in *Makers of Modern Strategy: from Machiavelli to Nuclear Age* (Peter Paret ed.)(Clarendon Press, London), pp. 123 - 132.

²⁸ Peter Paret, 1986, pp. 135 - 138.

²⁹ Michael Howard, 1986, pp. 584 – 588.

³⁰ Michael Howard, 1986, pp. 559 – 562.

³¹ Giulio Douhet, 1927, "The Command of the Air," in *Roots of Strategy Book 4* (David Jablonsky ed., 1999,) (Stackpole Books, PA), pp. 276 – 277.

those capabilities. The German military was transformed into a mechanized unit equipped with armored vehicles with internal combustion engine which made possible the tank. The internal combustion engine increased the speed of the German mechanized units, and armored vehicles offered German soldiers protection from machine guns. These changes in the German military brought the concept of blitzkrieg³². Mechanized armored units broke through the enemy's defense position with the close air support and artillery fire. By maneuvering mechanized armored units quickly into the deep rear area of enemy territory, the German Army attacked the center of gravity of enemy forces and paralyzed the enemy's ability to resist. With the concept of blitzkrieg, the German military defeated the Allied forces of Britain and France in the early phase of the Second World War. The Allied forces could not effectively respond to the German offensive, and the British Army even abandoned their equipment behind and retreated to Britain at Dunkirk in 1939.

In both cases, France in the 18th century and Germany in the interwar period effectively and successfully transformed their militaries into the new shapes and with their ideal shape and new concepts of operations. They also achieved swift military victories against enemies in larger quantity. However, these transformations in military organizations and doctrines did not happen by the effort of military alone. In both cases, there was social and political support from the national society. In the case of Napoleon's French Army, the French Revolution prior to the Napoleonic war brought fundamental social changes within France, which eventually transformed the composition of the French Army and the capabilities of the individual soldiers³³. The coup of Napoleon Bonaparte after the French Revolution also changed the political situation within the French society³⁴. The French Army of Napoleon had the social and political support from the French people. In the case of Germany during the interwar period, there was an explosive mood of nationalism within Germany against the Treaty of Versailles and the harsh

³² Michael Howard, 1986, pp. 584 – 588.

³³ Peter Paret, 1986, pp. 138 – 140.

³⁴ Peter Paret, 1986, pp. 124 – 127.

economic environment that developed after the Great Depression³⁵. This mood of nationalism and hardship united the German people, and brought the Nazi party on the German political scene. Moreover, the re-armament of Germany was not possible without political support. The experience of the First World War and the threat of a two front war motivated the experimentation that resulted in Blitzkrieg operational doctrine³⁶. The explicit expansion of re-armament was coincided with the rise of the Nazi party in power³⁷. Consequently, both cases might have not occurred without political and popular support from national society and the people.

The RMA in the late 1990's also satisfies the criteria of Elliot Cohen³⁸. The transformation of the US military after the Cold War was the plan to change the US military's shape and doctrines pursuant to the trend of the RMA. Considering these facts, the American military transformation after the Cold War must have been supported by the US public and politicians in Congress.

3. Militarism in the United States

In a society, political and public support for the military depends on the relationship between a society and its military. The relationship is defined by the roles of the military and the affinity between the military and its society³⁹. On the one hand, the military is an organization which has a unique role to manage armed forces in the society and to protect the society by the use of force in waging wars⁴⁰. In this sense, the relationship between society and military is determined by how effectively and efficiently the military accomplishes its roles of managing and using armed forces. On the other hand, military is a part

³⁵ Michael Howard, 1986, pp. 554 – 572.

³⁶ Michael Howard, 1986, pp. 572 – 594.

³⁷ Michael Howard, 1986, pp. 572 – 594.

³⁸ Eliot Cohen, 2008, "Change and Transformation in Military Affairs," in in *Military Transformation and Strategy: the Revolution in Military Affairs and small State* (Routledge: London) pp. 22 - 26.

³⁹ Samuel P. Huntington, 1959, *The Soldier and the State* (Harvard University Press, Cambridge, MA); Morris Janowitz, 1960, *The Professional Soldier*, (Free Press, Glencoe IL); James Burk, 2002, "Theories of Democratic Civil-Military Relations," in *Armed Forces and Society/Fall 2002 Vol.29, No.1*. (Sage Publication) pp. 7-10; Eliot Cohen, 1997, "Are U.S. Forces Overstretched?: Civil-Military Relations," in *Oribis Spring 1997*, pp. 177 – 186.

⁴⁰ Samuel P. Huntington, 1959; Morris Janowitz, 1960; James Burk, 2002; Eliot Cohen, 1997.

of society so that military has affinity with its mother society⁴¹. The military also shares core values and ideology of the society. The core values and ideology might be reflected in its military as the way of war and as the form of culture in military⁴². In this sense, the relationship between the society and the military is defined by how the society is reflected in its military.

Considering that the military is a part of a nation – and it is an organization under a national government which is in charge of governing the nation –, each government of nations has political authority over the military in regards to building, maintaining and using the armed forces⁴³. When a government builds military, it designs the military to well reflect the national ideology and constitution. When it maintains military, it wants the military to be ready for war by training and equipping efficiently. When a government uses its military forces, it expects the military to be effective enough to win wars.

All these issues of exercising political authority over the military lead a national government to the expectations about *how* the military would perform *what missions* in the name of national defense. That expectation might be focused on pure military affairs with military purpose only, while these expectations are likely to be about more than pure military affairs.

Vagts describes 'military way' as the way that a military is maintained with the philosophy that assumes that a military is performing its mission on the basis of pure military purpose - winning at war⁴⁴. He further explains that military ways is marked by primary concentration of men and materials on winning specific objectives of power with the utmost efficiency, that is, with the least expenditure of blood and treasure – limited in scope, confined to one function, and scientific in its essential qualities⁴⁵. On the other hand, he defines 'militarism' as a vast array of ideas and culture associated with military but transcending true military purpose by explaining that it may permeate all of society and become dominant

⁴¹ Samuel P. Huntington, 1959; Morris Janowitz, 1960; James Burk, 2002; Eliot Cohen, 1997.

⁴² Samuel P. Huntington, 1959; Morris Janowitz, 1960; James Burk, 2002; Eliot Cohen, 1997.

⁴³ Samuel P. Huntington, 1959; Morris Janowitz, 1960.

⁴⁴ Alfred Vagts, 1959, "Introduction – The Idea and Nature of Militarism," in *A History of Militarism* (Meridian Book), pp. 14-32

⁴⁵ Alfred Vagts, 1959, pp. 17 - 22.

over all industries and arts⁴⁶. He further warns that militarism is so constituted that it may hamper and defeat the purpose of the military – rejecting the scientific character of the military way and displaying the qualities of caste and cult, authority and belief⁴⁷.

In reality, military is maintained in both the military way and the militaristic way.⁴⁸ The very nature of armed forces – including organization, size, technologies and dispositions – is determined by multiple factors such as political structure and situation, economic conditions of the country, level and quality of the threat in the security environment, disposition and support of the people, expectations of allies, strategic culture of the nation-state, culture of the individual services and technologies available at a given time. It means that any military has some features of military way which are scientific and related to military functions and other features of militaristic way which are too much distracted by social aspects other than true military purpose. In this sense, every nation which has its own military has specific features of militarism in the society no matter how dominant they are within the society. In general, features of militaristic ways are evidenced by “ceremonial appurtenance”, “anti-revolutionary”, “conservative ideology”, “imaginary individualism”⁴⁹.

The United States has militaristic features in the US military and American society. In the United States, there is a belief that the US military should be number one in the world⁵⁰. Moreover, the belief is further extended in the idea that the U.S. Military can be an asset that promotes peace and prosperity in the world and the use of force can be justified by good causes such as democracy and human rights⁵¹. It has been reflected in several poll results asking the US public about the US military⁵². This American

⁴⁶ Alfred Vagts, 1959, pp. 17 - 22.

⁴⁷ Alfred Vagts, 1959, pp. 17 - 22.

⁴⁸ Alfred Vagts, 1959, pp. 24 - 32.

⁴⁹ Alfred Vagts, 1959, pp. 14 - 32.

⁵⁰ Adrian R. Lewis, 2012, “2. Traditional American Thinking About the Conduct of War,” in *American Culture of War 2nd Edition*, (Routledge, New York), pp. 23-37.

⁵¹ Gallup polls on Military and National Defense. ((<http://www.gallup.com/poll/1666/military-national-defense.aspx>)

⁵² Further details on the poll results are in the pages of 32-24.

public belief takes various shapes of military imperatives which connect every part of society with military and lead them to cooperate and support the realization of these imperatives. First, the belief asks the society to maintain military superiority in every possible environment and circumstance on planet earth. Second, the belief asks the society to maintain the industrial bases that produce the weapons and technologies required for military superiority. Third, the belief asks the society to advance military science and technology, in order to produce the next Revolution in Military affairs. Fourth, the belief asks the society to maintain a professional *All Volunteer Force* which is not dependent on conscription or draft. Fifth, the belief asks the society to secure the United States of America without wars in the mainland continent. All these military imperatives asks each part of American society to participate in shaping American military forces.

Within the US military, this belief has led the Department of Defense and military services to competition against the Soviet Union during the Cold War era and endless preparation for the future adversary in the situation of strategic uncertainty after the Cold War era. This trend of preparation for the future has been sustained even while the US military was engaging in two theater - level military operations in the Middle East after the attack of September 11⁵³. In order to maintain the top position in military affairs, the department of defense and military services have brought new concepts of war fighting and have developed weapon systems and military doctrines that realize the new concepts of war fighting⁵⁴. These efforts have been best embodied in the continuing pursuit of military transformation since the Second World War ended⁵⁵.

Defense related industries have well supported military's effort to be number one in military affairs⁵⁶. Defense industries have invested enormous amount of money in research and development of advanced military technologies and weapon systems. Even when these technologies were not

⁵³ Department of Defense, *Quadrennial Defense Review Report 2001, 2006, 2010, 2014*.

⁵⁴ See Chapter 3.

⁵⁵ See Chapter 3.

⁵⁶ See Chapter 5.

sophisticated enough and incomplete, the US military has purchased them and encouraged defense industries to keep investing in Research and Development⁵⁷. In this sense, the relationship between military and industries has been symbiotic rather than simple vendor – buyer relationship. When the US government planned a large scale build-down of armed forces after the Cold War, one of the main concerns was how to preserve the capabilities of producing military equipment and how to save industrial bases which enabled the US military to keep military superiority during the Cold War period⁵⁸.

In the political arena, Congress has been the main source of influence on military affairs. Even though foreign policy and use of force have been primarily under the influence of the executive branches such as the White House and Department of Defense, Congress has the authoritative power of funding military programs and governmental oversight regarding military and defense policy. Furthermore, issues in military affairs are under the jurisdiction of the Armed Services Committees in both chambers of Congress. Most members of both committees have the experience of military service and come from regions which are connected with the military in aspects of demography or regional economy⁵⁹. These attributes of committee members guarantee proper representation of regional interests and position of military services, while they also lead committee members' decisions to be distracted by other issues such as regional economy and inter-service rivalry, rather than effectiveness of military forces, which also can be considered signs of militarism.

4. Social and Political Context of the Military Transformation: What is the background of the military transformation?

⁵⁷ See Chapter 5.

⁵⁸ See Chapter 5.

⁵⁹ Rebecca Thorpe, 2010, "The Role of Economic Reliance in Defense Procurement Contracting" in *American Politics Research* July 2010 vol. 38 no. 4 (Sage Pub)pp. 636-675 (<http://apr.sagepub.com/content/38/4/636.short>); ROBERT LEVINSON, SOPAN SHAH, PAIGE K. CONNOR, and DANIEL PARKS, 2011, *Impact of Defense Spending: A State-by-State Analysis* (<http://forbes.house.gov/uploadedfiles/bloomberg.pdf>)

The military transformation in the post-Cold War era was the plan to realize the ideals of Revolution in Military Affairs. The plan of military transformation was a large scale project and did not come out without political and public support. Despite it was primarily about to increase military effectiveness, it was also maintained in militaristic way. The links between military transformation and militarism in the United States are the plan of military transformation, Congressional responses to military transformation, and public opinion regarding military issues and military transformation.

To transform ‘something’ means changing the object's characteristics into other forms with specific intention or targets to arrive. In order to discover the meaning of a transformation, it requires to trace what has been changed and to shed light on the specific goals planned to achieve. However, military transformations of military organizations and doctrines do not come out by the effort of military only. It requires social and political support from the national society. When studying a military transformation, it needs to consider the effect of environment in which the transformation is on the way. This can be domestic, social or international (global). Those factors of the environment can generate the driving or withholding forces behind the scene.

The transformation of the US military after the Cold War was based on the concept of Revolution in Military Affairs, and it was the plan to change the US military’s shape and doctrines in order to follow up the trend of the RMA⁶⁰. Considering these facts, it is probable that the US military transformation after the Cold War also had the social and political context that led the process of the military transformation.

A. Congress

One indicator measuring the political context of the military transformation is how Congress responded to the reports regarding the military transformation such as the Base Force Plan, the Bottom – Up Review Reports and the QDRs.

⁶⁰ William S Cohen, 1997, *Report of the Quadrennial Defense Review* (Department of Defense), Section VII, pp. 39-52.

When the secretary of Defense and the chairman of joint chiefs bring national military strategies to Congress, the strategies have been presented in front of the committees of both chambers – House Armed Services Committee and Senate Armed Services Committee⁶¹. Looking closely at how defense related legislative issues have been dealt in Congress, the committees have enormous influence on the military related issues. Most hearings have been held in the Committees and its sub-committees. Most issues are so military oriented, that other than members of the committees would not understand the issues comprehensively.

B. Public opinion

One indicator measuring the social context is the public opinion of American people. A couple of Gallup polling results on military issues well describe how the American public think about their military during the period of the military transformation – from 1992 to 2014. The first poll asked the American public if they were considering the US military as the number one in the World or one of the several leading militaries⁶².

<Figure 2-1. Gallup poll regarding number one military in the world>

Do you think the United States is number one in the world militarily, or that it is only one of several leading military powers?

	U.S. is number one %	U.S. is one of several %	Neither (vol.) %	No opinion %
2013 Feb 7-10	50	47	*	3
2012 Feb 2-5	54	45	*	1
2010 Jan 8-10	64	34	*	1
2007 Feb 1-4	60	39	*	1
2000 May 18-21	56	41	*	3
1999 May 7-9	51	46	1	2
1993 Mar 29-31	63	34	1	2

* Less than 0.5%

(vol.) = Volunteered response

Source: <http://www.gallup.com/poll/1666/military-national-defense.aspx>

⁶¹ During the period from 1995 to 2000, the House Armed Services Committee had been renamed as the House National Security Committee.

⁶² See Figure 2-1.

The poll covers from 1993 to 2013. More than half of the respondents – the lowest was 50%, the highest was 64% – replied that they thought the US military was number one, while little bit less than half of them – the highest was 47% and the lowest was 34% – considered the US military as one of the several leading military powers.

The other poll asked how American public felt the strength of the US military – stronger than it needs to be, not strong enough or just right⁶³. The Poll covered from 1990 to 2012. Around 50% of the respondents – from 41% to 64% – felt that the US national defense was about right and more or less than 10% of them – from 6% to 15% – thought that the national defense was stronger than it needed to be, while around 40% of the respondents – from 17% to 47%, the second lowest was 32% – answered that the national defense was not strong enough.

<Figure 2-2. Gallup poll about ‘military strong enough’ >

Do you, yourself, feel that our national defense is stronger now than it needs to be, not strong enough, or about right at the present time?

	Stronger than it needs to be	Not strong enough	About right	No opinion
	%	%	%	%
2012 Feb 2-5	13	32	54	1
2011 Feb 2-5	11	37	50	2
2010 Feb 1-3	7	45	46	1
2009 Feb 9-12	6	37	54	3
2008 Feb 11-14	10	47	41	2
2007 Feb 1-4	8	46	43	2
2006 Feb 6-9	7	43	47	3
2005 Feb 7-10	9	40	49	2
2004 Feb 9-12	10	34	54	2
2003 Feb 3-6 ^	13	34	52	1
2002 Feb 4-6	6	43	50	1
2001 Feb 1-4	7	44	48	1
2000 May 18-21	6	38	55	1
2000 Jan 13-16	6	39	52	3
1999 May 7-9	7	42	48	3
1990 Jan 4-7	16	17	64	3
1984 †	15	36	46	3

^ Asked of a half sample

† Gallup/Newsweek

Source: <http://www.gallup.com/poll/1666/military-national-defense.aspx>

⁶³ See Figure 2-2.

The point to notice is that more than 30% of the American public – except for 17% in 1990 – have thought their military as "not strong enough" as well as almost half of the American public have considered their armed forces as not "number one" but "one of several."

Another Gallup poll asked that if American public felt that it was important that the United States should be number one in the world military⁶⁴. The poll covered from 1993 to 2013. Around 60% of the respondents – from 59% to 70% – has felt that it was important that that the United States should be number one in the world military, while the rest of them – from 29% to 39% –thought that it was not important.

<Figure 2-3.Gallup poll regarding ‘important to be number on military in the world’>

GALLUP⁶

Do you feel that it's important for the United States to be number one in the world militarily, or that being number one is not that important, as long as the U.S. is among the leading military powers?

	Important	Not that important	No opinion
	%	%	%
2013 Feb 7-10	62	37	1
2007 Feb 1-4	61	38	1
2000 May 18-21	70	29	1
1999 May 7-9	59	39	2
1993 Mar 29-31	61	37	2

Source: <http://www.gallup.com/poll/1666/military-national-defense.aspx>

These polling results tell us that the majority of the American public – around 60% – think their military needs to be the strongest one in the world; at the same time, considerable portion of the American public – around 30% – are not satisfied with their military. These public beliefs can offer supporting arguments to the US government to build up additional military capabilities in order to keep the status of

⁶⁴ See Figure 2-3.

"number one military in the world" and to satisfy the American public. These beliefs also can lead the US to an increase in defense spending, if the beliefs are recognized and accepted by influential political actors such as members of Congress, Department of defense, or defense industries and related interest groups.

Chapter 3. Militarism and Military Transformation – The US Military

The Cold War was a competition between two superpowers - the United States of America and the Soviet Union. Each side considered the other as the prominent and urgent adversary, and they built up military capability to fight against each other. They spent enormous national resources to obtain technological superiority in the military field. In a situation like this, if one side disappeared as the consequence of competition, the other side might consider shifting the national priorities from military competition to other social areas such as education, welfare and commerce. Similarly, when the Cold War ended, it seemed inevitable for the United States to downsize its military. The United States did not have any reason to maintain large armed forces that were built to confront massive Soviet military forces. Nonetheless, the official documents released by the related government agencies such as the White House and the Department of Defense show that the US government considered other plans to change its military's shape based on the broader picture of national security rather than just downsizing it – the United States attempted to transform its military⁶⁵. The question is why the US government had to consider the military transformation even after the primary source of threat disappeared.

Looking back at the international environment of the early 1990's, the US is not the only government to pursue transforming its military after the Cold War. Singapore did it, and Britain also did it⁶⁶. Even some states who did not have clear adversary threats attempted to transform their militaries⁶⁷. They shared one common feature: the Revolution in Military Affairs⁶⁸. Nonetheless, in contrast to other national governments - whose primary concerns were their national economies; and who heavily focused

⁶⁵ Joint Chiefs of Staffs, 1992, *National Military Strategy of the United States*. This document is the beginning of the military transformation after the Cold War.

⁶⁶ Bernard Loo(Ed.), 2008, *Military Transformation and Strategy: the Revolution in Military Affairs and small State* (Routledge: London)

⁶⁷ Bernard Loo(Ed.), 2008

⁶⁸ Bernard Loo(Ed.), 2008

on cost-effectiveness of military spending - , the military transformation of the US government was too ambitious and quasi-imperialistic⁶⁹. This is *because the military transformation was not the plan for the imminent and existing threats but the plan for the unknown and unseen future challenges.*

*Furthermore preparation for the future was not a function of real world threats but a function of forces within the United States*⁷⁰. It started with the development of the Base Force Plan.

1. Base Force Plan

During the Bush administration (1989-1992) – the first administration after the end of the Cold War-, the Armed services of the US military faced the pressure of downsizing after the fall of the Soviet Union. The US military reviewed its status under the guidance of the Chairman of the Joint Chiefs of staffs, General Colin Powell, and “the Base Force plan” was released as the product of the review process⁷¹. In the Base Force Plan, the United States changed its military strategy from the 2 and ½ strategy to the 2 major regional contingencies strategy⁷². To implement this strategy of regional contingencies scenarios, the Base Force was suggested as the minimum force structure to be maintained under the budgetary constraints and in the uncertain international environment of the 1990’s⁷³.

This strategic change began with the intent of Colin Powell who served as the assistant to President in national security affairs during the Reagan administration and became the chairman of the joint chiefs later in the Bush administration. He eye-witnessed the inevitable change within the Soviet

⁶⁹ Alfred Vagts, 1959, “Introduction – The Idea and Nature of Militarism,” in *A History of Militarism* (Meridian Book), pp. 14-32; Andrew J. Bacevich, 2013, “Wilsonians under Arms,” in *The New American Militarism*, (Oxford University Press, New York), pp. 1-9; Chalmers Johnson, 2001, “The Root of American Militarism,” in *The Sorrow of Empire: Militarism, Secrecy, and the End of the Republic* (Metropolitan Books, New York), pp.39-66; Adrian R. Lewis, 2012, “2. Traditional American Thinking About the Conduct of War,” in *American Culture of War 2nd Edition*, (Routledge, New York), pp. 23-37.

⁷⁰ Adrian R. Lewis, 2012. The American strategic culture in the 1990’s was shaped by the Second World War and the Cold War. The United States had been in an arms race for half a century. That was not just going to stop.

⁷¹ Joint Chiefs of Staffs, 1992, *National Military Strategy of the United States*; Lorna S. Jaffe, 1993, “Acceptance of the Base Force,” in *DEVELOPMENT OF THE BASE FORCE 1989 – 1992 JOINT HISTORY OFFICE Office of the Chairman of the Joint Chiefs of Staff*, pp. 35 – 45.

⁷² Lorna S. Jaffe, 1993, “A New Strategy,” pp. 45 – 50.

⁷³ Lorna S. Jaffe, 1993, “A New Strategy,” pp. 45 – 50.

Union during his visit to Moscow with President Reagan⁷⁴. He had confidence that it would not be necessary for the United States to prepare for global scale military conflict because the Soviet Union would not exercise a strong enough influence that could turn a regional contingency into a global scale conflict as the Soviet Union did during the Cold War period⁷⁵. On this assumptions, he suggested shifting the focus of the US military strategy from global scale military conflicts to regional scale military contingencies⁷⁶. He divided the whole globe into two regions – the Atlantic region and the Pacific region⁷⁷. For the US military to perform effectively in these regions, he argued that the US military was required to maintain *contingency force* to respond to various military contingencies and *strategic force* to deter the use of weapons of mass destruction⁷⁸. He and his team developed various contingency scenarios under the strategy for dealing with possible contingencies in these two regions – the Atlantic and Pacific regions⁷⁹. The Base Force Plan mentioned the Persian Gulf and Korea as the most likely regions where regional military contingencies would break out⁸⁰.

This strategy – 2 Major Regional Contingencies (MRC) strategy – became the logic and the base line to determine the scale and structure of military forces to be maintained in the beginning of the Post-Cold War period. The base force is the product of this deliberative process to determine the force structure to perform the ‘Two Major Regional Contingencies Strategy’ after the Cold War ended.

However, the military, including Chairman Colin Powell, did not have a comprehensive picture of threat assessment for the coming years of the post-Cold War era⁸¹. He argued that it was difficult and impossible to visualize all the sources of threat and to develop specific scenarios to respond to them in

⁷⁴ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁷⁵ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁷⁶ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁷⁷ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁷⁸ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁷⁹ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁸⁰ Lorna S. Jaffe, 1993, “General Powell’s Strategic Vision,” pp. 10 – 13.

⁸¹ Lorna S. Jaffe, 1993, “Changes in Strategic Thinking,” pp. 6 – 10.

situations of strategic uncertainty⁸². Instead, he and his team paid attention to the concept of warning of war that was discussed and developed in the Roundtable of Warning (ROW) in 1988⁸³. The ROW recognized the difficulty of determining precise warning times at the end of the Cold War and offered the identification of multiple warning patterns as the analytical tool which was applicable in a regional as well as a global context⁸⁴. This new concept of warning gave the Chairman Colin Powell and his team the idea that if early warnings with proper quality are offered in advance, it is possible to respond to various situations with the reduced force structure⁸⁵. When supporting capabilities for the Base Force were discussed, this idea about the early warning was later connected to the plan to use space as the essential part of Command, Control, Communication, and Intelligence (C3I) and related to the series of Research and Development (R&D) to maintain technological superiority⁸⁶.

One point which needs to be mentioned is the impact of the Gulf War on the Base Force Plan. Scrutinizing the process of development of the base force concept, I focused on the fact that the Gulf War broke out in the middle of the process. The Gulf War broke out in October 1990 by the invasion of Iraqi forces into Kuwait, and it ended in February 1991. The Base Force plan was signed by the chairman of the joint chiefs, reported to the Secretary of Defense and the President, and released to the United States public on the 27th of January in 1992⁸⁷. Considering that the Gulf War brought a swift victory to the United States, it would have affected the Base Force plan which had been prepared in two years advance and was released in one year after the war ended. According to the Joint History Office of the Office of the Chairman of the Joint Chiefs of Staff, the war itself did not make any significant change on the force structure that was suggested in the Base Force Concept⁸⁸. In other words, the result of the Gulf War supported the restructuring program and gave the green light to pursuing the plan further into the designed

⁸² Lorna S. Jaffe, 1993, "Changes in Strategic Thinking," pp. 6 – 10.

⁸³ Lorna S. Jaffe, 1993, "Changes in Strategic Thinking," pp. 6 – 10.

⁸⁴ Lorna S. Jaffe, 1993, "Changes in Strategic Thinking," pp. 6 – 10.

⁸⁵ Lorna S. Jaffe, 1993, "Changes in Strategic Thinking," pp. 6 – 10.

⁸⁶ Lorna S. Jaffe, 1993, "Acceptance of the Base Force," pp. 44 – 45.

⁸⁷ Lorna S. Jaffe, 1993, "A New Strategy," p. 49

⁸⁸ Lorna S. Jaffe, 1993, "Endorsement of Chairman's Views," pp. 30 – 43.

direction. It means that, at least, the Gulf War and its result satisfied the Joint Chiefs of Staff – the organization that developed the Base Force Plan.

The Base Force plan did not end with the suggested force structure only. It also included further recommendations for the modification of the reduced force structure⁸⁹. To maintain global stability in the 21st century, the plan argues that further investment would be required for the Base Force Plan to perform effectively and for the reconstitution of the US armed forces in the event of global conflict⁹⁰. The plan prescribes that these investments should focus on how to move the forces swiftly (transportation), how to use Space (space technology), how to retain reserve forces to regenerate forces (reconstitution), and how to maintain technological superiority (research and development)⁹¹. These recommendations show that the plan was not just suggesting an alternative force structure but also urging further military to achieve the transformation of the United States Armed forces.

The Base Force plan was not the product of an ideal type of deliberation for developing defense policy. When the plan was developed, there were various and vague assumptions about security environment but no clear picture of threat assessment. A strategic uncertainty was prevalent in the late 1980's and the early 1990's. Four facts were certain: first, the influence of the Soviet Union was not the same as it had been; second, the military was under the pressure of budget constraints; third, the military should be functioning well even after downsizing; fourth, technological changes particularly the development of stealth technology and precision weapons appeared to change the nature of warfare⁹². Under these circumstances, military services made enormous effort to prevent relentless downsizing by arguing that there were not clear evidences of the changes in threats from the Soviet Union⁹³. In order to persuade military services about the inevitability of downsizing, the Joint Chiefs of Staffs attempted to

⁸⁹ Joint Chiefs of Staffs, 1992, "The Base Force – A Total Force," *National Military Strategy of the United States*, pp. 17-26

⁹⁰ Joint Chiefs of Staffs, 1992, pp. 17-26.

⁹¹ Joint Chiefs of Staffs, 1992, pp. 17-26.

⁹² Joint Chiefs of Staffs, 1992, "Introduction: Strategic Landscape & Realities," pp. 1-5.

⁹³ Lorna S. Jaffe, 1993, "Endorsement of Chairman's Views," pp. 30 – 43.

start formulating the requirements of military forces under the guidance of logic – or strategy – of two major regional contingencies, instead of a specific picture of threat assessment⁹⁴. In the end, they offered the structure of the Base Force as the answer.

However, the lack of a clear picture of threat assessment led the plan to two problems later: first, the force structure in the Base Force concept was too small to successfully fight two MRC scenario; second, the potential adversaries being assumed in the two MRC scenario did not have the same strong military capability as the Soviet Union had in the Cold War era⁹⁵. In the first case, the problem could have led the US armed forces into an additional military build-up to accomplish the scenario. In the second case, the problem could have led the US Armed forces into a development of new military doctrine and a transformation of the US Armed forces.

2. Bottom-Up Review

Congressman Les Aspin, later the Secretary of Defense during the Clinton Administration, expressed negative opinions toward the Base Force Plan as the chair of Armed Services Committee in the House⁹⁶. He pointed out that the Base Force was not the product of deliberations based on clear strategic goals and visible threats in the future⁹⁷. He argued that the size and capabilities of the US Armed Forces should not be determined in a vacuum (without threat assessment) but based on the forthcoming threats. He insisted that a new force structure should require a series of reviews (e.g. the Bottom-Up Review (BUR)) on security environment, military strategy and military posture⁹⁸. He further argued that the review would guide how to build the size and capabilities of the US armed forces⁹⁹. The idea of building

⁹⁴ Lorna S. Jaffe, 1993, "Endorsement of Chairman's Views," pp. 30 – 43.

⁹⁵ Frederick Kagan, 2006, *Finding the Target: The Transformation of American Military Policy* (Encounter book)

⁹⁶ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

⁹⁷ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

⁹⁸ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

⁹⁹ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

new force structures to respond to new threats brought the concept of military transformation during the Clinton administration.

The Bottom-Up Review was an attempt to reevaluate the validity of the whole content in the Base Force Plan, which was in the *National Military Strategy of the United States in 1992*¹⁰⁰. The primary author of this document was the Defense Secretary Les Aspin, who previously had served as the chairman of the Armed Services Committee in House of Representatives. He explicitly mentioned negative expressions about the Base Force plan and claimed that the plan required a full scale review during his last years of tenure at the House¹⁰¹. After taking the office of the Secretary of Defense, he pursued a full scale review process on the military structure of the United States. The main purpose of the review was to evaluate how well the military strategy (the strategy of Two Major Regional Conflicts) matched with the force structure (the size of the Base Forces)¹⁰².

When the report described the possible scenarios under the assumption of two major regional conflicts, the term of “*nearly simultaneously two major conflicts*”¹⁰³ was used. By continuing to use the term of ‘*simultaneous*’ two major conflicts, the report recognized the inevitability of the strategy of 2 MRC. The report stated that the strategy based on ‘only one MRC scenario’ would put restrictions on strategic flexibility of the US military. The report further explained that it would be probable for potential aggressors to provoke the US militarily while the US was engaging with other country in a military conflict. While warning that this situation would lead the US into undesirable consequences, the report recommended the US military should prepare for more than one military conflict at one time.

However, by using the word of “nearly simultaneously”, the report showed that the United States was not in the conditions that could allow the US military to maintain the size of forces which satisfied

¹⁰⁰ Joint Chiefs of Staffs, 1992, *National Military Strategy of the United States*.

¹⁰¹ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

¹⁰² Les Aspin, 1993, “Section I: National Security in the Post-Cold War Era,” in *Report on the Bottom-Up Review* (Department of Defense), pp. 1-5

¹⁰³ Les Aspin, 1993, “Section IV: Building an Overall Force Structure,” pp. 27-32.

the ideal requirement for the strategy of 2 MRC¹⁰⁴. Even though the force structure for two RMC was chosen as the optimal option in the report, the chosen force structure in the report was not twice the quantity of the estimated force structure for one conflict in numerical aspect¹⁰⁵. To explain this, the report brought the logic of balanced force mixes. The logic is based on the following assumptions: first, every component in military has its own purpose; second, it is difficult to choose the right force structure under strategic uncertainty, and focusing on a certain component will make entire military vulnerable to respond to unexpected threats; third, a component can compensate for the reduction of other components and substitute for others under various circumstances; fourth, it is possible to generate balanced force structures by mixing the capabilities of each components in military forces; fifth, the U.S has allies in both the Pacific and the Atlantic Regions who can contribute to US force structure¹⁰⁶.

While reducing the size of forces with the logic of balanced force mixes, the report raised the necessity for review of force modernization¹⁰⁷. The report evaluated the principal weapons procurement programs and research & development programs. It pointed out that modernization programs needed to be readjusted because the programs were developed to respond to threats from the Soviet Union¹⁰⁸. The report argued that modernization programs should be re-focused on preparations for what comes next instead keeping alive the legacy weapon programs that were designed to fight against the Soviet Union¹⁰⁹. In addition to the future operational needs and the changing characteristics of unclear threats, the core considerations in the review process on modernization were to preserve the capacity of the military industrial base under the fiscal constraints and to develop technologies to provide enhancements to the capabilities of the US weapon system¹¹⁰.

¹⁰⁴ Les Aspin, 1993, "Section IV: Building an Overall Force Structure," pp. 27-32.

¹⁰⁵ Les Aspin, 1993, "Section IV: Building an Overall Force Structure," p. 31, Figure 8.

¹⁰⁶ Les Aspin, 1993, "Section IV: Building an Overall Force Structure," pp. 27-32.

¹⁰⁷ Les Aspin, 1993, "Section V: Modernization," pp. 33-76.

¹⁰⁸ Les Aspin, 1993, "Section V: Modernization," pp. 33-34.

¹⁰⁹ Les Aspin, 1993, "Section V: Modernization," pp. 33-34.

¹¹⁰ Les Aspin, 1993, "Section V: Modernization," pp. 33-34.

The recommendations of the report were to stop the unnecessary weapons procurement programs, to continue the production of mission essential programs, and to keep investing in R&D programs that were necessary to respond to the existing threats and forthcoming ones. The essence of the recommendation was that almost all major R&D programs – except for the development of space lifter launch vehicles – survived : for jet fighters, A/F-X and MRF programs were merged into Joint Advanced Strike Technology Program¹¹¹; for theater missile defense system, the decision was to continue all three major development programs such as Sea Based Upper Tier system, Corps SAM, and ascent/boost phase intercept capabilities, even though Corps SAM was deferred until 1998¹¹²; for national missile defense, the Department of Defense decided to fund Brilliant Eye missile tracking satellite¹¹³; for military satellite communication, development of advanced EHF satellites was decided to be continued¹¹⁴. All these programs were evaluated as necessary for the operational needs for the military strategies as well as beneficial for US defense industrial bases of the United States under the fiscal constraints in the early 1990's. In this sense, the report of the Bottom-Up review offered specific options of necessary weapons procurement programs for the strategy of 2 MRC, while the base force plan established the corner stones of military transformation by suggesting the strategy of 2 MRC.

By evaluating the Base Force Concept and the Bottom-Up Review, I conclude that there was no foreseeable threat to the US after the fall of the Soviet Union and the US military was in the position to prepare for every possible scenario that might happen in the World. The two MRC scenarios was a guideline and a logic to set up the minimum size of military forces required in uncertain security environments. Moreover, because there was no primary source of threat, the US government attempted to

¹¹¹ Les Aspin, 1993, "Section V: Modernization," pp. 35-38.

¹¹² Les Aspin, 1993, "Section V: Modernization," pp. 43-48. The report told that the Corps SAM shared core technologies of PAC-3 which was planned for development and purchasing.

¹¹³ Les Aspin, 1993, "Section V: Modernization," pp. 43-48.

¹¹⁴ Les Aspin, 1993, "Section V: Modernization," pp. 65-68.

adjust their military not on the basis of clear external threats but on the basis of capability to respond to the tentative scenarios – this is the capabilities based approach.

The congressional evaluation on this report was controversial: On the one hand, the content of the report itself seemed not to satisfy the members of Congress; on the other hand, the review process in the report was considered as an essential and necessary step to develop national defense policy¹¹⁵. The result of deliberation on the Bottom-Up Review was the Military Force Structure Act of 1996¹¹⁶, which mandated a comprehensive report on a quadrennial review of military force structure – Quadrennial Defense Review (QDR). When the House passed the Annual National Defense Authorization Act of FY 1996, the House representatives inserted the Military Force Structure Review Act in the bill. The Act stated that the Bottom-Up Review had been criticized on points including its strategic assumptions, the recommended force level for the strategy, and the ways to fund the force structure¹¹⁷. Despite critical appraisal, there was the consensus in Congress that the review process of the Bottom-Up Review was the necessary step to develop national defense strategy and to determine the force structure of the US military under the strategic uncertainty since the demise of the Soviet Union¹¹⁸. In addition to that, the Act mentioned that more frequent comprehensive reviews of military force structure would be required due to the pace of global change¹¹⁹. The Act mandated the Secretary of Defense to report the result of comprehensive review of national defense one year after a new administration begins as the result of a presidential election¹²⁰. Basically, the report that was mandated in the Act will be the outline of the defense policy of a newly began administration and the report will be published every four years,

¹¹⁵ The US House, 1995, "Sec. 922. Findings", in *Military Force Structure Act of 1996*.

¹¹⁶ The US House, 1995, *Military Force Structure Act of 1996* (10 USC 111)

¹¹⁷ The US House, 1995, "Sec. 922. Findings", in *Military Force Structure Act of 1996*.

¹¹⁸ The US House, 1995, "Sec. 922. Findings", in *Military Force Structure Act of 1996*.

¹¹⁹ The US House, 1995, "Sec. 922. Findings", in *Military Force Structure Act of 1996*.

¹²⁰ The US House, 1995, "Sec. 923. Quadrennial Defense Review", in *Military Force Structure Act of 1996*.

matching the four year presidential term. The report is *the Report of Quadrennial Defense Review*, five of which have been published since the first QDR was released in 1997¹²¹.

The military transformation of the US Armed Forces has been a critical issue of defense policy in these five QDRs. The term, *the military transformation*, appeared for the first time in the QDR 1997¹²². The military transformation got into the main policy objectives in the QDR 2001 and 2006¹²³. In the QDR 2010 and 2014, the military transformation itself was not described as a major policy issue but the terms of “Rebalancing” and “Evolution of Military Forces” appeared as the means to deal with the flaws of the military transformation and to manage the programs and projects that were set up for the military transformation¹²⁴. It means that every administration since the Clinton administration considered the military transformation as a critical issue of defense policy, even though the position of each administration on the military transformation was quite different from previous administrations.

3. QDR 1997

The first QDR represents the national defense policy of the Clinton administration. The military strategy in the QDR 1997 was still based on the assumption of strategic uncertainty as were previous reports such as the Base Force Plan and the Report of Bottom – Up Review. Except for the large scale conventional wars that the US military had primarily prepared for during the Cold War era, there was a variety of small scale contingencies including peacetime engagements in crisis during the late 1990’s. The concept of full spectrum operations was developed to prepare for executions of various military

¹²¹ QDR 1997, QDR 2001, QDR 2006, QDR 2010, and QDR 2014.

¹²² William S Cohen, 1997, *Report of the Quadrennial Defense Review* (Department of Defense), Section VII, pp. 39-52.

¹²³ Department of Defense, 2001, *Quadrennial Defense Review Report* (Department of defense), V. Creating the U.S. military of the 21st Century, pp.29-48; 2006, *Quadrennial Defense Review Report* (Department of defense), Reorienting Capabilities and Forces, pp. 41-59.

¹²⁴ 2010, *Quadrennial Defense Review Report* (Department of defense), the Evolution of the Forces in Rebalancing the Forces Guiding, pp. 17-48, 2014, *Quadrennial Defense Review 2014* (Department of defense), Chapter III. Rebalancing the Joint Force & Chapter IV. Rebalancing the Defense Institution, pp. 22-52.

operations in the wide range of crisis spectrum¹²⁵. The Full-Spectrum Operations was the conceptual answer to the changing characteristics of warfare and uncertain security situations during the post – Cold War era: not to prepare for a single primary source of threats but to be ready to respond to various types of threats¹²⁶.

Nonetheless, the main framework for the force structure of the US military was the two Major Theater Wars (MTW) scenario which implies that the US military needs to maintain the force structure to execute more than one theater-scale military conflict simultaneously¹²⁷. In this sense, the two Major Theater War scenario shared the same strategic logic with the two Major Regional Contingencies scenario that General Colin Powell brought up when he and his team developed the concept of the Base Force in the National Defense Policy in 1992 as well as the two Major Regional Conflicts building blocks in the Report of the Bottom – Up Review. Despite the similarity of the logic, the recommendations for the force structure in the QDR 1997 were distinguished from those in the previous reports in two senses. First, it focused more on the capabilities of the US military. The change of the term from “Major Regional Conflicts” to “Major Theater Wars” implies that the US military would not have the force structure that limited itself to specific regional threats but should maintain the capabilities and the force structure that enable the US military to perform military operations in more than one theater scale war no matter where a war takes place. This also means that the US military strategy departed from the threat-based approach even in regional scale to the capabilities based approach. Second, the QDR 1997 recommended that the force structure satisfied the requirements of the near term but also be transformed into the appropriate shape to respond to the future challenges. The QDR 1997 mentioned that the technological development

¹²⁵ William S Cohen, 1997, Section III. Defense Strategy, pp. 11-17

¹²⁶ William S Cohen, 1997, Section III. Defense Strategy, pp. 11-17

¹²⁷ William S Cohen, 1997, Section III. Defense Strategy, pp. 12-13.

of the time would change the way to build the force structure and the force structure would differ from the ones that previous reports recommended¹²⁸.

Nonetheless, the concept of military transformation was still premature and vague when the QDR 1997 was published. With regard to the urgency of military transformation, the QDR 1997 considered the Joint Vision 2010 as the guideline for the military transformation¹²⁹. Even though the Joint Vision 2010 contained critical elements of military transformation like joint-ness, full-spectrum dominance, and advanced technologies, this document was not a practical solution for military transformation but a broad conceptual description about warfighting with superior capabilities under strategic uncertainty. Along with the ideas described in the Joint Vision 2010, the QDR 1997 also emphasized the unpredictability of future security environment and the imperative to maintain military superiority¹³⁰. With the assumption of unpredictable future, the QDR 1997 supported the concept of the full spectrum dominance which implied that the US military should secure essential capabilities for military superiority to perform any kinds of missions under any circumstances in the future¹³¹. The military transformation was the plan to obtain these capabilities and to develop appropriate methods to implement the required capabilities in the battle field.

Even though the military transformation in the QDR 1997 was vague and premature, the QDR set out the critical conceptual bases for the military transformation. First, the QDR 1997 pursued the exploitation the Revolution in Military Affairs¹³². The QDR 1997 put the Revolution in Military Affairs at the center of the military transformation and considered it as the conceptual guideline that could lead the military transformation in the right direction and into the ideal shape. Second, the QDR 1997 contained

¹²⁸ William S Cohen, 1997, Section III. Defense Strategy, pp. 11-18.

¹²⁹ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 39-41.

¹³⁰ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 39-41.

¹³¹ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 39-41.

¹³² William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 41-43.

the vision of the US military to conceptualize the military transformation¹³³. Based on the Joint Vision 2010 which contained the vision of the Department of Defense and the Joint Chiefs of Staffs, each service developed its own plan for the military transformation: *Force XXI* and *the Army After Next* for the Army, *Global Engagement: A Vision for the 21st Century Air Force* for the Air Force, *From the Sea and Forward* for the Navy, and *Marine Corps Operational Maneuver for the Sea* for the Marine Corps¹³⁴.

Third, the QDR 1997 offered the force modernization plan that would function as the bridge between the force structure of that time and the one of the future. Even though the QDR recommended reducing the overall number of weapon procurement, it suggested replacing the aging weapon systems with the new weapon systems that were still in the stage of R&D.¹³⁵ The QDR 1997 also saved several weapon systems by delaying the time of deployment and putting them in the R&D stage for more modification and research.¹³⁶ In conclusion, the idea of military transformation was conceptualized in the QDR published in 1997 as visions of each military service and the Department of Defense, in order to realize the concept of the Revolution in Military Affairs, even though it did not have specific and detailed programs or projects that represented the military transformation.

¹³³ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 39-43.

¹³⁴ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, p. 42.

¹³⁵ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, p. 44-47. F-22 was considered as the replacement of F-15. JSF, which was still in the R&D stage in 1997, was the replacement of F/A -18 E/F and EA-6B. MV-22 was the replacement of CH-46. In the ADR 1997, JSF was the program that was reviewed as the Department's largest acquisition program and the first to develop a family of common aircraft for use by land – and sea-based aviation forces. JSF was the result of evaluation that developing three new combat aircraft simultaneously would have been prohibitively expensive. (QDR 1997 p. 46)

¹³⁶ The Department decided to keep THAAD (Theater High Altitude Air Defense) program alive by putting them in the R&D stage even though its technical failure and delay in the target date. In case of National Missile Defense, the Department did not set up a target date for the deployment of national missile defense system, while the Department decided to obtain the ability to deploy initial operational capability within three years after the decision to deploy would be made. (QDR 1997, p. 46)

4. QDR 2001

In the QDR 2001, what started as a vision in the QDR 1997 was developed into a comprehensive policy objective that had a clear blueprint for the future force structure.¹³⁷ Military transformation became the center piece of the QDR 2001, which was the defense policy during the first term of the Bush Administration¹³⁸. The QDR 2001 drew the legitimacy of military transformation from capabilities based approaches to force planning. The QDR 2001 argued that maintaining superior capabilities would be the only option to respond to various contingencies under the strategic uncertainty¹³⁹. In addition to that, the QDR 2001 argued that the US military should develop the necessary military capabilities for the future in order to keep military superiority in key functional areas of military competition such as power projection, space and information¹⁴⁰. In the QDR 2001, the military transformation was considered as the means of developing the necessary capabilities in these key functional areas and to change the force structure into the proper shape to exercise these capabilities.

The framework of force planning in the QDR 2001 was to maintain the force structure that enables military operations anywhere in the globe, not focusing the specific regions such as North East Asia and South West Asia¹⁴¹. By changing the term from the major theater wars of the QDR 1997 to the major combat operations of the QDR 2001, the force structure in the QDR 2001 moved away from the regional based structure and took into the shape of more capabilities oriented structure¹⁴². This framework required information superiority for early warning, advanced network technologies for communication,

¹³⁷ Department of Defense, 2001, *Quadrennial Defense Review Report* (Department of defense), V. Creating the U.S. military of the 21st Century, pp.29-48; The QDR 2001 was released just one month after the attack of September 11. Even though some parts regarding the attack of September 11 were added, this was the document that contained the national defense policy before the attack of the September 11.

¹³⁸ Jim Garamone, 2001, "Bush Addresses NATO, U.S. Military Transformation" in *American Forces Press Service* NORFOLK, Va., (Feb. 13, 2001)

¹³⁹ Department of Defense, 2001, "I. American's Security in the 21st Century," pp. 1-7.

¹⁴⁰ Department of Defense, 2001, "II. Defense Strategy," pp.13-15.

¹⁴¹ Department of Defense, 2001, "III. Paradigm Shift in Force Planning," p. 21.

¹⁴² Department of Defense, 2001, "III. Paradigm Shift in Force Planning," p. 21.

effective combat capabilities of forces for warfighting, and high mobility for force projection¹⁴³. The QDR 2001 mentioned that the force structure of the year of 2001 was not adequate to satisfy these requirements so that it was necessary to transform the US military into the shape which fits a global basis of military operations¹⁴⁴.

For the military transformation, the QDR 2001 focused on organizing force structure able to conduct joint operations anytime necessary¹⁴⁵. The QDR 2001 also emphasized developing operational concepts to respond to *emerging operational challenges* and testing these operational concepts through experimentation and field exercises¹⁴⁶. The center piece of the military transformation in the QDR 2001 was the development of capabilities: the layered missile defense for protection, sea & air – lift capability and ‘light but lethal expedition modular units for force projection, littoral vessel and new tactical aircraft for defeating anti - access and area denial threats, and new information technologies for information superiority¹⁴⁷. Specifically, the QDR mentioned *information operations, intelligence and space assets* as the core capabilities of future forces for the transition to network centric warfare¹⁴⁸. Differing from the previous QDR and other reports regarding military transformation, the QDR 2001 contained the Department’s specific intention to develop the military transformation into the plan with time line and clear goals¹⁴⁹. The QDR 2001 specified the Office of the Force Transformation as the organization that would lead the process of the military transformation and it also offered the interim stage of transformation plans of the Services as well as the final goals of the whole process of the military transformation¹⁵⁰. In conclusion, the military transformation in the QDR 2001 changed into the core

¹⁴³ Department of Defense, 2001, “IV. Reorienting the U.S. Military Global Posture,” pp.25-27.

¹⁴⁴ Department of Defense, 2001, “IV. Reorienting the U.S. Military Global Posture,” pp.25-27.

¹⁴⁵ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.32-35.

¹⁴⁶ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.35-37.

¹⁴⁷ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.37-40.

¹⁴⁸ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.37-40.

¹⁴⁹ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.32-47.

¹⁵⁰ Department of Defense, 2001, “V. Creating the U.S. military of the 21st Century,” p.36-37.

policy objective of national defense which had a comprehensive plan with the responsible organization to lead the process, the specific time line and the clear goals to achieve, the military strategies and doctrines to be the basis of military operation, military procurement programs and R&D projects to equip the armed forces, and budget plans to fund these programs and projects.

5. QDR 2006

The QDR 2006 still considered the military transformation as the core policy objective, even though the United States was engaged in two military campaigns in South West Asia: one in Iraq and the other in Afghanistan¹⁵¹. It was emphasized many times in the QDR 2006 that the report was not a new start but under the momentum of the QDR 2001¹⁵². Specifically, in the matters of military transformation, the QDR 2006 mentioned that the QDR was the part of continuum of transformation in the Department of Defense and the focus of the military transformation was to provide warfighting capabilities for the future in the decades ahead¹⁵³.

The logic for the recommended force structure in the QDR 2006 was described in the concept of the wartime force planning construct. While describing the refined wartime force planning construct, the QDR 2006 explicitly mentioned that the Department should increase its capabilities to conduct operations against enemies who employ asymmetric approaches¹⁵⁴. The QDR 2006 counted ‘homeland defense,’ ‘war on terror & irregular warfare,’ and ‘conventional campaigns’ as the three objective areas of the wartime force planning construct¹⁵⁵. For the objective of homeland defense, the QDR 2006 recommended

¹⁵¹ Department of Defense, 2006, “Fighting the Long War,” pp. 9-16; “Reorienting Capabilities and Forces,” *Quadrennial Defense Review Report* (Department of defense), pp. 41-59.

¹⁵² Department of Defense, 2006, “Preface,” pp. vii – viii.

¹⁵³ Department of Defense, 2006, “Preface,” pp. vii – viii.

¹⁵⁴ Department of Defense, 2006, “Operationalizing the Strategy: Refining the Department’s Force Planning Construct for wartime,” pp. 35 – 40.

¹⁵⁵ Department of Defense, 2006, “Operationalizing the Strategy: Refining the Department’s Force Planning Construct for wartime,” pp. 35 – 40.

increasing the capabilities necessary to work with other agencies¹⁵⁶ and provide homeland defense with unique functions of the US military¹⁵⁷ including air and missile & maritime defense. For the objective of war on terror and irregular warfare, the QDR 2006 emphasized increasing intelligence capabilities to locate and track terrorists, strike capabilities to eliminate terrorist threats¹⁵⁸, communication capabilities to share information and to connect with related agencies, and counterinsurgency capabilities to gain support and cooperation from indigenous forces¹⁵⁹. For the objective of conventional campaigns, the QDR 2006 proposed the strategy and the capabilities to wage two nearly simultaneous conventional campaigns while selectively reinforcing deterrence against opportunistic acts of aggression¹⁶⁰. The strategy also assumed the other case in which one conventional campaign might occur while the US was engaged in an irregular campaign with a long duration and a large scale¹⁶¹. Regime change was considered in the strategy as a possible option to deal with a hostile regime against the US¹⁶².

The emphasis on increasing capabilities led the force planning construct to the military transformation. Rather than presenting its own version of military transformation, the military transformation in QDR 2006 focused on reorienting the capabilities and the forces for developing joint capability portfolios for the wartime force planning construct and future demand¹⁶³. The QDR 2006 offered ten domains of joint capabilities¹⁶⁴ including Joint Warfighting Capabilities, Anti - WMD

¹⁵⁶ Department of Defense, 2006, "Operationalizing the Strategy," pp. 24 – 27. U.S. NORTHCOM was activated as the organization which had authorities and functions to coordinate efforts for the homeland defense with other federal agencies such as the Department of Homeland Defense, FBI, and CIA etc.

¹⁵⁷ Department of Defense, 2006, "Operationalizing the Strategy," pp. 24 – 27. These functions include the air and maritime domain awareness capabilities for the early warning against attacks aiming the Homeland of the United States and the air & missile defense system with prompt global strike capabilities against Weapons of Mass Destructions attacks.

¹⁵⁸ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 61. The special operation forces and prompt global strike capabilities were counted as the necessary strike capabilities.

¹⁵⁹ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 61.

¹⁶⁰ Department of Defense, 2006, "Operationalizing the Strategy," pp. 37 – 39.

¹⁶¹ Department of Defense, 2006, "Operationalizing the Strategy," pp. 37 – 39.

¹⁶² Department of Defense, 2006, "Operationalizing the Strategy," pp. 37 – 39.

¹⁶³ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 61.

¹⁶⁴ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 61. The ten domains of joint capabilities included the following capabilities: Joint Ground Forces, Special Operations Forces, Joint Air Capabilities, Joint Maritime Capabilities, Tailored deterrence and New Triad, Combatting WMD, Joint Mobility, Intelligence/Surveillance/Reconnaissance (ISR), Achieving Net-Centricity, and Joint Command & Control.

capabilities, Joint Mobility for global engagement, and Capabilities for achieving net - centricity. Based on these ten joint capabilities domains, the QDR 2006 attempted to evaluate the ongoing process of military transformation that was initiated in the QDR 2001¹⁶⁵. The lessons learned from combat experiences and demands from the combatant commanders were counted as important factors in the evaluation process¹⁶⁶. On top of the interim evaluation about the military transformation, the QDR 2006 also spelled out the direction and tasks of military transformation for the future force structure. These directions and tasks were embodied in weapon procurement programs and R&D projects that would realize the visions of ten domains of joint capabilities: modular brigades with future combat system for Joint Ground Forces, insertion & extraction capabilities into denied areas for Special Operations Forces, the fifth generation jet Fighter program and UAV (Unmanned Aerial Vehicles) for Joint Air Capabilities, Littoral Combat Ship programs and the Maritime Pre – Position Force programs for Joint Maritime Capabilities, continuing New Triad priorities¹⁶⁷ and information protection policies¹⁶⁸ for Tailored Deterrence and New Triad, establishing the Defense Threat Reduction Agency as the primary agency dealing with WMD and expanding CBRNE units for combatting WMD (Weapons of Mass Destructions), procuring additional C-17 & C/KC-130 and C-5 modernization for Joint Mobility, the Space Radar program including other space enabling capabilities and E-10A technology demonstrator program for Joint ISR, the Global Information Grid program and the Transformational Satellite program for achieving net centricity, and the Global Force Management Program and establishing Standing Joint Forces Headquarters for Joint Command and Control¹⁶⁹.

¹⁶⁵ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 59.

¹⁶⁶ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 41 – 59.

¹⁶⁷ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 49 – 51.

¹⁶⁸ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 55 – 61.

¹⁶⁹ Department of Defense, 2006, "Reorienting Capabilities and Forces," pp. 55 – 61.

6. QDR 2010

Differing from the previous two QDRs, the QDR 2010 did not address the military transformation as the core policy objective. Instead, the QDR 2010 presented the four primary defense objectives which were drawn to manage the international security environment including the on-going wars in South West Asia¹⁷⁰. The four primary defense policy objectives included prevailing in the wars in Iraq and Afghanistan, preventing and deterring conflicts, preparing to defeat adversaries, and preserving and enhancing the All - Volunteer Force¹⁷¹. On the basis of the evaluation on the status of the US military forces in 2009, the QDR 2010 argued that it was urgent for the US military forces to be rebalanced to accomplish the four primary defense policy objectives¹⁷².

The military transformation, which was initiated in the QDR 2001, was redirected to the plan of *the evolution of forces* as a part of *the Rebalancing the Forces* in the QDR 2010¹⁷³. In the shortfall in the capabilities and capacity of forces, the QDR 2010 suggested the tradeoffs between programs that would redirect resources from lower-priority programs into the high priority programs¹⁷⁴. The QDR 2010 also forecast that there some cases would not be remedied through investment on new system or additional force structure and those cases would require greater investment on costly research and development programs or concept exploration projects¹⁷⁵. To lead the initiatives to meet the future operational needs, the QDR 2010 presented the four capability areas – ISR, fighters and long-range strike aircraft, joint

¹⁷⁰ Department of Defense, 2010, "Defense Strategy," in *Quadrennial Defense Review Report* (Department of defense), p. 11.

¹⁷¹ Department of Defense, 2010, "Defense Strategy," p. 11. This mission was about taking care of military forces which engaged battles for a decade. Under the system of All – Volunteer Force, the big burden of decade long warfighting was put over the military personnel who occupied only 1 % of the whole population of the United States.

¹⁷² Department of Defense, 2010, "Defense Strategy," p. 11; "Rebalancing the Forces," pp. 17 - 47. Guiding the Evolution of the Forces in Rebalancing the Forces, pp. 17-48.

¹⁷³ Department of Defense, 2010, "Rebalancing the Forces: Guiding the Evolution of the Forces," pp. 39-41.

¹⁷⁴ Department of Defense, 2010, "Rebalancing the Forces: Guiding the Evolution of the Forces," pp. 39-41.

¹⁷⁵ Department of Defense, 2010, "Rebalancing the Forces: Guiding the Evolution of the Forces," pp. 39-41.

forcible entry, and information network and communication – as the vectors of evolution of forces¹⁷⁶. In conclusion, the military transformation in the QDR 2010 was the wrapping up phase of the military transformation initiated in the QDR 2001 and the process of searching for the new vectors that would lead the direction of another military transformation.

7. QDR 2014

The most recent QDR was published in March 2014. Comparing to the QDR 2010, the QDR 2014 had a significant change in strategic assumptions. The QDR 2014 proposed the transition from the wartime strategy that focused on the on - going wars in South West Asia to the peacetime strategy that was prepared for future challenges¹⁷⁷. While the QDR 2010 focused on winning two wars in South West Asia and balancing resource and manpower for the defense policy objectives, the QDR 2014 emphasized defending homeland and managing risks in the force structure caused by fiscal constraint and sequestration in the defense budget¹⁷⁸.

The QDR 2014 followed the same direction expressed in the QDR 2010 in the matters of the military transformation. As in the QDR 2010, the center piece of the QDR 2014 was the rebalance of the forces rather than the transformation of the US military forces¹⁷⁹. As the wars in South West Asia went into the ending phase, the fiscal constraints became the critical factor to determine defense planning. The fiscal constraint began to influence every part of defense policy and bring significant changes into the force structure of the US military¹⁸⁰. The QDR 2014 described the strategy for the conventional campaign as defeating a regional adversary in a large - scale multi – phased campaign, and at the same time denying

¹⁷⁶ Department of Defense, 2010, "Rebalancing the Forces: Guiding the Evolution of the Forces," pp. 39-41.

¹⁷⁷ Department of Defense, 2014, "Chapter II: The Defense Strategy," *Quadrennial Defense Review 2014* (Department of defense), pp.11-26.

¹⁷⁸ Department of Defense, 2014, "Chapter III. Rebalancing the Joint Force," pp. 27-31.

¹⁷⁹ Department of Defense, 2014, "Chapter III. Rebalancing the Joint Force & Chapter IV. Rebalancing the Defense Institution," pp. 22-52.

¹⁸⁰ Department of Defense, 2014, "Chapter III. Rebalancing the Joint Force & Chapter IV. Rebalancing the Defense Institution," pp. 22-52.

the objectives of another aggressor in another region¹⁸¹. The QDR 2014 also implicitly expressed a concern about the situation that a smaller military force under the fiscal constraint would strain the ability to simultaneously respond to more than one major contingency at a time¹⁸². It means that the US military considered changing the strategic guidance of ‘responding to two major campaigns simultaneously’ for the first time since the two major regional contingencies scenario was developed in the National Military Strategy in 1992.

The fiscal constraint and sequestration level budget cut also affected the military transformation that remained as the major part of defense policy objectives since the military transformation was specified as the vision of the US military in the first QDR published in 1997. Even though the military transformation was not explicitly mentioned as the core policy objective in the QDR 2014 as well as the QDR 2010, the military transformation was still the major part of defense policy. Considering the fact that most programs of the military transformation were targeted to be mission operable by the year 2020¹⁸³, these programs were still in the phase of research and development or production. The fiscal constraint and the sequestration level budget cut urged the Department of Defense to determine the fate of the procurement programs and R&D projects that were initiated to realize the vision of the military transformation¹⁸⁴. The determination was done through the prioritization of programs. The following are the programs that were prioritized through the QDR 2014 decisions: F-35 JSF program, development of the long range strike aircraft with stealth capability and the KC-46A next generation tank/cargo aircraft for Air force; selective upgrade of combat and support vehicles and investments in new technologies for Army; investments to start SSBN (X) submarine construction in FY2021, the Offensive Anti-Surface Warfare weapons, Next Generation Land Attack Weapon, Virginia Payload Module, and F-35 programs

¹⁸¹ Department of Defense, 2014, “Chapter II. The Defense Strategy,” p. 22.

¹⁸² Department of Defense, 2014, “Chapter II. The Defense Strategy,” p. 22.

¹⁸³ William S Cohen, 1997, Section VII. Transforming U.S. Forces for the Future, pp. 31-48.

¹⁸⁴ Department of Defense, 2014, “Chapter III. Rebalancing the Joint Force,” pp. 27-42.

for Navy; upgrade of the Amphibious Combat Vehicle and investment on capabilities that enables littoral maneuver for Marine Corps¹⁸⁵.

Instead of the military transformation, the QDR 2014 considered the innovation and adaptation of the forces as the paramount and central line of effort. The innovation and adaption in the QDR 2014 was defined as seeking innovative approaches to ‘how to fight’, ‘how to posture the forces’, and ‘how to leverage the asymmetric strength and technological advantages’¹⁸⁶. When addressing the necessity of maintaining the technological superiority through developing new capabilities, tactics, techniques, and keeping procedures effective as well, the QDR 2014 presented energy efficiency, new technologies, and renewable energy sources as the objectives for leveraging the asymmetric strength and technological advantages¹⁸⁷. Even though the innovation and adaptation in the QDR 2014 covered the domain that has been considered as part of the military transformation in the previous QDRs, it is difficult to consider this policy agenda as a part of the previous military transformation or as another plan of new military transformation which can replace the previous military transformation. Rather, the innovation and adaptation in the QDR 2014 can be counted as an interim initiative to search the direction or concept for another military transformation in the coming future.

8. Summary

The US military transformation during the post - Cold War era was the attempt to transform the US military – including the military strategy, doctrine, force structure, and weapon systems – after the demise of the Soviet Union. The military transformation was based on the idea of Revolution in Military Affairs, which focuses on applying revolutionary advance of information technologies of the 1990’s into

¹⁸⁵ Department of Defense, 2014, “Chapter III. Rebalancing the Joint Force,” pp. 27-31.

¹⁸⁶ Department of Defense, 2014, “Chapter II. The Defense Strategy,” pp. 22 – 25.

¹⁸⁷ Department of Defense, 2014, “Chapter II. The Defense Strategy,” pp. 22 – 25.

the military sphere. It has been the core defense policy objective of the Department of Defense for longer than 20 years, from 1992 to 2014.

It started with the Base Force Plan in the National Military Strategy published in 1992. The Base Force Plan was the force structure that was required to maintain in order to conduct two major regional contingencies scenarios. The report of the Bottom – Up Review in 1994 assessed the validity of the Base Force Plan. While the report of the Bottom – Up Review agreed with the two MRC scenario as the logic of the force planning construct, it also suggested further reducing the size of forces and adjusting force modernization plan to the changing security environment. The report of the Bottom – Up Review included initiation of new R&D projects to equip the military forces as well as cancellation of unnecessary force modernization programs. Since 1997, the Department of Defense has published the report of the Quadrennial Defense Review every four years. These five Quadrennial Defense Review Reports contain the core contents of the military transformation. In the QDR 1997, the military transformation was presented as the vision plan of the Department of Defense and the military Services. Through the QDR 2001 and 2006, the military transformation was changed into the major policy objective which has a specific time frame and clear goals to be achieved. As the wars in South West Asia came down into the ending phase and the fiscal constraint was aggravated, the priority of defense policy was moved from the military transformation into the rebalance of forces in the QDR 2010 and QDR 2014. In addition, as the due time for the military transformation comes, the Department of Defense and the Services have tried to search new concepts for another military transformation in the name of the Evolution of Forces and the innovation & adaptation of forces in the QDR 2010 and QDR 2014.

Chapter 4. Militarism and Military Transformation – Congress and Public

In a society, political and public support for the military depends on the relationship between a society and its military. The relationship is defined by the roles of the military and the affinity between the military and its society. On the one hand, the military is an organization which has a unique role to manage armed forces in the society and to protect the society by use of force in waging wars. In this sense, the relationship between society and military is determined by how effectively and efficiently the military accomplishes its roles of managing and using armed forces. On the other hand, military is a part of society so that military has affinity with its mother society. The military also shares core values and ideology of the society. The core values and ideology might be reflected in its military as the way of war and as the form of culture in military. In this sense, the relationship between the society and the military is defined by how the society is reflected in its military.

Considering that the military is a part of a nation – and it is an organization under a national government which is in charge of governing the nation –, each government of nations has political authority over the military in regards to building, maintaining and using armed forces. When a government builds military, it designs the military to well reflect the national ideology and constitution. When it maintains military, it wants the military to be ready for war by training and equipping efficiently. When a government uses its military forces, it expects the military to be effective enough to win wars.

All these issues of exercising political authority over military lead a national government to the expectations about *how* the military would perform *what missions* in the name of national defense. That expectation might be focused on pure military affairs with military purpose only, while these expectations are likely to be about more than pure military affairs.

Vagts describes 'military way' as the way that a military is maintained by the philosophy that assumes a military is performing its mission on the basis of pure military purpose - winning at war¹⁸⁸. He further explains that military ways are marked by a primary concentration of men and materials on winning specific objectives of power with the utmost efficiency, that is, with the least expenditure of blood and treasure – limited in scope, confined to one function, and scientific in its essential qualities¹⁸⁹. On the other hand, he defines 'militarism' as a vast array of ideas and culture associated with military but transcending true military purpose by explaining that it may permeate all of society and become dominant over all industries and arts¹⁹⁰. He further warns that militarism is so constituted that it may hamper and defeat the purpose of the military – rejecting the scientific character of military way and displaying the qualities of caste and cult, authority and belief¹⁹¹. Nonetheless, in reality, military has both characters of military way and militaristic way (or militarism). It is maintained in both ways.

In this sense, every nation – which has its own military – has a type of militarism which can be defined as a culture of war or military culture. The United States of America cannot be an exception. She also has a type of militarism – American militarism. The primary source of American militarism is the belief that the U.S. military should be number one in the technological aspect¹⁹². This belief requires the U.S. military to be maintained in a military way rather than in a militaristic way. The existence of this belief has been proved by several polls regarding public opinion about the U.S. military¹⁹³. Furthermore, in a democratic country like the United States, a shared public opinion has political influence. In the

¹⁸⁸ Alfred Vagts, 1959, "Introduction – The Idea and Nature of Militarism," in *A History of Militarism* (Meridian Book), pp. 14-17.

¹⁸⁹ Alfred Vagts, 1959, pp. 14-17.

¹⁹⁰ Alfred Vagts, 1959, pp. 14-17.

¹⁹¹ Alfred Vagts, 1959, pp. 14-17.

¹⁹² Andrew J. Bacevich, 2013, "Wilsonians under Arms," in *The New American Militarism*, (Oxford University Press, New York), pp. 1-9; Chalmers Johnson, 2001, "The Root of American Militarism," in *The Sorrow of Empire: Militarism, Secrecy, and the End of the Republic* (Metropolitan Books, New York), pp.39-66; Adrian R. Lewis, 2012, "2. Traditional American Thinking About the Conduct of War," in *American Culture of War 2nd Edition*, (Routledge, New York), pp. 23-37;

¹⁹³ Gallup, Military and National Defense (<http://www.gallup.com/poll/1666/military-national-defense.aspx>)

United States, a representative system in politics is the mechanism to transmit public opinion to political representatives.

When the U.S. public share this belief, they also influence their political representatives - president in national level, senators and house representatives in state and congressional district level. On the other hand, the committee system in the US congress is the mechanism in which most business under a jurisdiction is dealt with in Congress. When it comes to military issues, most issues are under the jurisdiction of the armed services committees of both chambers. Considering that the committee system in congress is organized to offer professional and special information to all members of each chamber, the decisions in the chambers are under the influence of committees whose jurisdictions cover the issues.

1. Committees' Responses to the Military Transformation

A. The Base Force Plan¹⁹⁴

During the post-Cold War era, the Department of Defense officials went through a complicated situation in which they were required to draft a comprehensive defense policy without prominent threats, under a fiscal constraint, and just after a military victory against one of the strong militaries – Iraq. The Senate Armed Services Committee held a series of hearings in 1992 in order to question the Department of Defense about the security environment being described as ‘strategic uncertainty’ and to discuss possible policy options for the U.S. Armed Forces to be militarily effective and fiscally affordable.

The hearings – *Threat Assessment, Military Strategy and Defense Planning* – covered various issues such as security environment (Jan 22, 1992), nuclear weapons options (Jan 23, 1992), defense and federal budget (Feb 19, 1992), military strategy in Europe (Mar 2, 1992), and defense planning and force structure (Mar 20, 1992). The hearings related to ‘defense planning and force structure’ proceeded under

¹⁹⁴ This is the summary of the hearings. United States Senate, 1992, “Military strategy, Net Assessment and Defense Planning and Budget issues,” in *Threat assessment, military strategy, and defense planning : hearings before the Committee on Armed Services, United States Senate, One Hundred Second Congress, second session, January 22, 23; February 19; March 3, 20, 1992*. (U.S. G.P.O, Washington D.C.).

the subtitle of *Military Strategy, Net Assessment, and Defense Planning and Budget Issues*. The Base Force Plan was the main focus during the hearings, because the Base Force Plan had a specific meaning as a defense plan to set up a blueprint for the force structure of the post-Cold War era.

The main witness was the chairman of the joint chiefs, General Colin Powell. He was quite confident about the Base Force Plan¹⁹⁵. During the hearing, he kept arguing that the force structure of the Base Force Plan was a reasonable one to satisfy the national military strategy in the security environment under budgetary constraint¹⁹⁶. In the drafting process of the Base Force Plan, his main focus was to suggest a proper force structure that would satisfy the military strategy under budget constraint¹⁹⁷. The suggested force structure was much smaller than the force structure during the Cold War era¹⁹⁸. Force reduction was inevitable due to the national economic crisis in the early 1990's as well as the collapse of the Soviet Union. The inevitability of force reduction urged General Colin Powell to develop a plan with which he could manage the process of force reduction at an affordable rate – from the Cold War force structure to the 'new' force structure for the post- Cold War era¹⁹⁹.

The main issues in the hearing were how to design the force structure and how to reduce the current force size to the 'new' force structure in a manageable way²⁰⁰. Before the Senate hearing, there was a debate between Congressman Les Aspin (D-WI) and General Colin Powell in the House of Representatives²⁰¹. As the chairman of the House Armed Services Committee, Congressman Aspin criticized the base force plan as not reflecting the change of security environment in which the Soviet Union collapsed and the CIS was divided into 15 different states in 1993²⁰². He further argued that the

¹⁹⁵ United States Senate, 1992, pp. 457 – 461.

¹⁹⁶ United States Senate, 1992, p. 472.

¹⁹⁷ Joint Chiefs of Staffs, 1992, *National Military Strategy of the United States*.

¹⁹⁸ United States Senate, 1992, pp. 473 - 478.

¹⁹⁹ United States Senate, 1992, pp. 467 - 468.

²⁰⁰ United States Senate, 1992, pp. 485 - 490.

²⁰¹ United States Senate, 1992, pp. 490 - 493.

²⁰² These two events occurred after the National Military Strategy had developed in 1992. Congressman Les Aspin argued that the Soviet Union got weaker than assumed in the National Military Strategy in 1992.

force structure could be reduced more than the plan in the national military strategy of 1992, and the reduction should be determined based on the plausible scenarios that reflected the security situation of the time²⁰³. Furthermore, he offered the four options of force structure that were suitable for possible scenarios under the strategic environment of the time²⁰⁴. Eventually, House members voted to pass the defense authorization bill of 1993²⁰⁵ that would cover option C of Aspin's plans. Considering the fact that option C was a similar plan to the base force plan, it seemed that House members did not support the radical options but chose a more flexible one among Aspin's recommendations. Contrary to the aggressive reduction recommended by Congressman Aspin, Senator Wallop expressed doubts about the effectiveness of the force structure in the Base Force Plan²⁰⁶. Senator Malcolm Wallop (R-WY) argued that force reduction was so fast and radical that the base forces would not satisfy “the Iraq equivalent capability”²⁰⁷. He also pointed out that once the force structure was reduced, the reconstitution of forces would not be as “idyllic” as it was described in the Base Force Plan²⁰⁸.

Toward the criticism that the Base Force Plan did not reflect the security environment of 1993, General Collin Powell argued that even though the planners of the base force plan had not precisely predicted the sudden collapse of the Soviet Union, the plan assumed similar situations that were equivalent to the case of the sudden collapse of the Soviet Union²⁰⁹. He also criticized changing the force structure swiftly as inappropriate whenever any change in security environment happened, specifically in the era of strategic uncertainty²¹⁰. Instead, he claimed that it was necessary to build up a force structure

²⁰³ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

²⁰⁴ *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992); United States Senate, 1992, pp. 461-467.

²⁰⁵ This vote was not scheduled on the hearing but during the authorization process for the annual budget. The force structure was the main debate issues during the authorization process.

²⁰⁶ United States Senate, 1992, pp. 507 – 509.

²⁰⁷ United States Senate, 1992, p. 507.

²⁰⁸ United States Senate, 1992, p. 508.

²⁰⁹ United States Senate, 1992, “Anticipating the Break-up of the Soviet Union,” pp. 510- 513; pp. 500-501; Senator Levin asked.

²¹⁰ United States Senate, 1992, pp. 513- 518.

that might work effectively in various possible scenarios in the strategic environment of the post - Cold War era²¹¹.

Members of the Senate Armed Services Committee also questioned the assumption about the roles and level of involvement that the allies would take in the strategy of Two Major Regional Contingencies²¹². They asked whether further reduction in force structure would be possible if the allies took more responsibilities and roles of combined operation plans in the regions²¹³. Colin Powell responded that the US military should prepare unilateral operation plans in the situation of allies not working for the US due to domestic political situations²¹⁴.

The inevitability of force reduction led the hearings in how to build down the force structure without significant damage in the aspects of effectiveness and the quality of soldiers. The most highlighted issue was the personnel problem – how to reduce service members and civilian employees in the Department of Defense and each military service²¹⁵. Despite the disagreement about the force structure, most committee members agreed that if the process were not managed in a “smart” way, large-scale force reduction would cause serious social problems and affect the quality of forces in the end²¹⁶. General Colin Powell advocated base force reduction as the right force for the future and claimed that further reduction below the Base Force Level would diminish the effectiveness of forces and the morale of service members²¹⁷. He also pointed out that the military was a “very human organization,” so Congress should take care of the soldiers who left the military through the implementation of force reduction²¹⁸.

²¹¹ United States Senate, 1992, pp. 513- 518.

²¹² United States Senate, 1992, pp. 470- 477. Chairman Sam Nunn (D-GA) and Senator Wallop (R-WY) questioned about it.

²¹³ United States Senate, 1992, pp. 470- 477.

²¹⁴ United States Senate, 1992, p. 467; pp. 470- 477.

²¹⁵ United States Senate, 1992, pp. 484- 494.

²¹⁶ United States Senate, 1992, pp. 484- 494. Chairman Sam Nunn (D-GA) led the discussion.

²¹⁷ United States Senate, 1992, pp. 484- 494.

²¹⁸ United States Senate, 1992, p. 487.

Force reduction also led the members of committee to debate the Base Closure and Re-alignment issue and the industrial base issue²¹⁹. Along with active military forces, the reserve component was also a target of force reduction. Senators Strom Thurmond (R-SC), who had military installations related to the National Guard, argued that the National Guard was more efficient than active components and that National Guard units could perform better by giving more support to them. He also stated that the plan of too much reduction in the National Guard would not gain support from Congress²²⁰.

The committee members also questioned the effect of force reduction on industrial bases. They were concerned about losing the capability to manufacture equipment and weapon systems that had been developed during the Cold War era²²¹. Specifically, B-2 bombers and Sea-Wolf class submarines were mentioned as the target of procurement reduction²²². Considering the fact that those weapon systems were equipped with the most sophisticated and state of the art technologies of the time, closing important industrial bases such as shipyards and manufacturing facilities might undermine the industrial capacity to equip the military forces in emergencies. General Powell explained that the department would keep alive the facilities that were related to core technologies; and even if there were a reduction in weapon procurement, necessary parts of weapon procurement programs would be funded to keep them moving along as a part of Research and Development²²³.

Senator John Warner (R-VA) raised the issue of four different air forces²²⁴ in the US military. He asked if these four different air forces were necessary; if it was recommendable to merge them into one air force. General Colin Powell answered that all four air forces have unique missions and roles for each

²¹⁹ United States Senate, 1992, pp. 503 – 506; pp. 508 - 509.

²²⁰ United States Senate, 1992, pp. 496 - 498.

²²¹ United States Senate, 1992, pp. 509 – 510.

²²² United States Senate, 1992, pp. 503 – 504. Senator William Cohen (D-ME), Senator Wallop (R-WY), and Senator Edward Kennedy (D-MA).

²²³ United States Senate, 1992, pp. 503 – 504; pp. 515 – 516.

²²⁴ United States Senate, 1992, pp. 521 – 523. They include US Air Force, US Marine Corps Aviation, US Navy Aviation, and US Army Aviation.

military service that they were supporting, and merging them into one air force would undermine military effectiveness during the mission²²⁵.

Overall, the hearing was going quite smoothly. The Base Force Plan was evaluated as a “very strategy driven” document in the aspects of force structure and supporting capability for the force structure. There were some disagreements about which weapon depots or bases would be closed, but, mostly the committee members understood the security environment of the post-Cold War era and the strategy to deal with it in a big picture of national defense policy.

B. Bottom –Up Review

During the hearing on the report of the Bottom - Up Review in the House, almost every member of the House Armed Services Committee did not support the bottom up review²²⁶. The criticism was that the report was budget driven; the force structure did not match the strategy; it was based on a higher level of risk than the Department assumed; and it did not show a clear picture of how to prepare for the future²²⁷.

The first criticism was that the plan in the report was ‘budget driven’ instead ‘strategy driven’²²⁸. Representative John Kyl (R-AZ) and Representative Ike Skelton (D-MO) pointed out that the report focused on how to reduce the force structure as much as not to compromise the capability that the U.S. Military could execute the two MRC scenario strategy²²⁹. Representative Kyl (R-AZ) argued that, by allowing only a slight margin – which means narrow strategic reserve – , this plan would put too much

²²⁵ United States Senate, 1992, pp. 521 – 523.

²²⁶ United States House of Representatives, 1994, *Assessment of the Bottom-Up Review : hearings before the Military Forces and Personnel Subcommittee of the Committee on Armed Services, House of Representatives, One Hundred Third Congress, second session, March 1, and March 22, 1994*, (U.S. G.P.O., Washington D.C.)

²²⁷ United States House of Representatives, 1994.

²²⁸ United States House of Representatives, 1994, pp. 28-30.

²²⁹ United States House of Representatives, 1994, pp. 28-30.

burden on the current force structure and it would increase the fatigue of forces; eventually, the plan would compromise the capabilities of US military – if not today – in the long term²³⁰.

Second, the committee members argued that the suggested force structure in the report was not enough to execute the military strategy²³¹. Basically, the strategy for force construct was the Two Major Regional Contingencies that was also the strategy for force construct in the Base Force Plan. They warned that similar strategic goals with a reduced force structure led the force construct and military doctrine to be too complicated²³². In fact, the report suggested three force construct options that cannot be understood without further explanation about the methodology used for the development of the options²³³. In addition, the representatives argued that the force structure was developed on the basis of ‘very’ optimistic threat evaluation that was narrowly focused on the security environment of the time²³⁴. Considering the strategic uncertainty that prevailed during the 1990’s after the Cold War ended, narrowly focused and too optimistic threat evaluations could not help but be harshly criticized during the hearing in the House Armed Services Committee.

Third, Representatives Ike Skelton (D-MO) criticized the report for accepting a higher degree of risk than recommended in the Base Force Plan²³⁵. He pointed out that both plans were developed to satisfy the absolute minimum with the level of “Low to Moderate Risk” which was based upon the risk assessment from Joint Military Net Assessment²³⁶. During the hearing, Representatives Ike Skelton (D-MO) and Representative Martin Lancaster (D-NC) also asked what caused the difference between the Base Force and the Bottom - Up Review Force in the matter of absolute minimum force structure with the

²³⁰ United States House of Representatives, 1994, p. 29.

²³¹ United States House of Representatives, 1994, pp. 28-37. Representative Kyl (R-AZ), Representative Skelton (D-MO), Representative Martin Lancaster (D-NC)

²³² United States House of Representatives, 1994, pp. 28-37.

²³³ Les Aspin, 1993, *The Report on the Bottom-Up Review* (Department of Defense)

²³⁴ United States House of Representatives, 1994, pp. 28-37.

²³⁵ United States House of Representatives, 1994, pp. 32-34.

²³⁶ United States House of Representatives, 1994, pp. 32-34.

same level of risk assessment in the similar security environment of strategic uncertainty²³⁷. They further questioned if bottom up review force was developed on the basis of higher risk acceptance, and they argued that the higher risk level might link to the higher casualties on the ground²³⁸.

Fourth, the committee members criticized the report for not having a clear vision for the future. When the chairman of the committee asked the second panel in the hearing if the suggestions in the Bottom –Up Review were proper proposals for national defense, all the witnesses of the panel expressed a concern that the suggestions in the report would be successful only in the short term – a couple of years²³⁹. John L. Peterson criticized the report for not offering proper options to deal with even five to seven years ahead and recommended having “a long range kind of strategy” that could deal with extraordinary changes in the 1990’s²⁴⁰. John E. Kring mentioned that there would be better way to build a force structure with the same condition that was described in the report²⁴¹. Elliot A. Cohen witness argued that it was a very serious problem if fundamental issues of the post-Cold war era would not be solved with this document²⁴². Altogether, they urged the Department of Defense to have “some kind of first order rethinking” while warning that it might be much harder to do a few years later²⁴³.

They also discussed the concept of RMA and the impact of on-going changes in the field of technology²⁴⁴. Peterson argued that the world was going through revolutions in technology including information technologies, nanotechnology and energy technologies, and the changes in these technologies would change the landscape of war and warfighting²⁴⁵. They recommended transforming the US military into the shape that could contain the extraordinary changes in technology and respond to the threat

²³⁷ United States House of Representatives, 1994, pp. 32-34

²³⁸ United States House of Representatives, 1994, pp. 32-37.

²³⁹ United States House of Representatives, 1994, pp. 42-67. John L. Peterson (Arlington Institute), Elliot A. Cohen (Johns Hopkins University), and John E. Krings (Former Director of Operations Test and Evaluation)

²⁴⁰ United States House of Representatives, 1994, pp. 65-67.

²⁴¹ United States House of Representatives, 1994, pp. 65-67.

²⁴² United States House of Representatives, 1994, pp. 65-67.

²⁴³ United States House of Representatives, 1994, pp. 42-67.

²⁴⁴ United States House of Representatives, 1994, pp. 42-67.

²⁴⁵ United States House of Representatives, 1994, pp. 42-67.

coming from potential future adversaries who might willingly use these technologies against the United States²⁴⁶.

In the midst of harsh criticisms, there was one proponent for the plan who argued that the problem of the report was not the answer – contents of the report – but the question that was given to the authors –intent and purpose²⁴⁷. Krings pointed out that the authors were asked to write a plan that would satisfy the budget constraints, and further defended the report of the Bottom –Up Review by mentioning that the process to get to the answer was sound and proper; and the answer was the best one available under the specific assumptions of the report²⁴⁸. He concluded that the review process was excellent because it enabled accurate cost estimation to maintain force structure and analyze availability of force structure within the boundary of budget²⁴⁹.

In the two party system of US politics, it is unusual that almost every committee member from both parties disagree with contents of a report and express negative evaluations on policies described in the report that was published in the name of a federal agency and an administration. Particularly, defense policy has been the domain in which the executive branch – the White House and the Department of Defense – has policy initiatives. In this perspective, harsh criticism toward the Bottom - Up Review was unusual. What caused harsh responses to the Bottom-Up Review was the intent with which this report was prepared as well as the specific policy contents contained in the report.

²⁴⁶ United States House of Representatives, 1994, pp. 42-67.

²⁴⁷ United States House of Representatives, 1994, pp. 54-56.

²⁴⁸ United States House of Representatives, 1994, pp. 54-56.

²⁴⁹ United States House of Representatives, 1994, pp. 54-56.

All the criticisms came from the purpose of the report. This report has ‘bottom up’²⁵⁰ in the title, and these words define the characteristics of the report²⁵¹. In the bottom-Up budgeting process, all the units’ costs are calculated individually – so the cost for each part will be calculated only for the part itself. For example, a division of the army will calculate the operational cost for the division itself. If there are 10 division in the army, there will be ten different cost estimates, each for a division. In order to develop the total budget in the bottom up process, the first task to be done is ‘doing the inventories’ to figure out how many units there are in a division force structure and how much cost is required for each unit. After that, the amount of budget will be calculated by adding up all the costs. This ‘bottom up’ process will be beneficial to discover unnecessary and hidden costs that can be neglected in a ‘top down’ budget process in which each unit might be considered identical. Seemingly, a ‘bottom up’ budget process has strong points to achieve financial benefit for the budget. Then, why were there so many criticisms regarding the report of the Bottom - Up Review?

The problem is that the maximum amount of budget was already set up even before getting the cost for each part of the force structure²⁵². In the situation that the budget boundary is below the summation of costs for units, the only option is removal of a certain part or parts of the structure and this leads to shortage of force structure. The Bottom – Up Review suggested further reduction in force structure from that of the Base Force Plan, because the financial status of the United States was not stable enough to guarantee sufficient budget for the force structure of the Base Force²⁵³. This was the intent of

²⁵⁰ By definition, ‘bottom up’ describes the method of system development to build a higher system by putting pre-existing systems together. The pre-existing systems become the sub-systems or parts of the higher system. In this case, it is essential to understand the characteristics of the pre-existing systems in order to understand the higher system. In the opposite way, ‘Top down’ describes the method of system organization by designing the frame first and filling each part of the frame in accordance with the design. In this case, the design and the framework determine the characteristics of parts or the sub system of the frame.

²⁵¹ Considering that this report was about the defense budget for force structure, ‘bottom up’ in the title means the characteristics of the method to develop a budget. The ‘bottom up’ budgeting process means that the budget will be built by adding together all the costs that are required for each part of an organization to operate.

²⁵² United States House of Representatives, 1994, pp. 28-30.

²⁵³ Les Aspin, 1993, *The Report on the Bottom-Up Review* (Department of Defense)

the review and this intent was the reason that the report was budget driven, not strategy driven. All the criticisms came out of the budget driven manner of policy development.

In addition to that, the military strategy was similar to that of the base force plan, which means that the military would function with smaller force structure for a similar strategy. The budget driven force reduction urged the Department of Defense to consider force construct options with higher level of risk that could increase OPTEMPO²⁵⁴ / PERSTEMPO²⁵⁵ and eventually the fatigue of soldiers. The high level of OPTEMPO and PERSTEMPO has led to the lack of strategic reserve and it also demised strategic flexibility. This situation made the department of defense focus on not a variety of possible scenarios but specific scenarios that were regionally focused and based on the security environment of the time. Eventually, all these shortcoming did not allow the department of defense to develop a comprehensive plan about how to prepare for the defense policy of the future – military transformation which includes strategy, force structure and weapon systems.

C. QDR 1997

Since Congress passed the Military Force Structure Review Act of 1996²⁵⁶ requiring ‘administration based defense review’ – the Quadrennial Defense Review (QDR) –, the Department of Defense released the reports of the Quadrennial Defense Reviews in 1997, 2001, 2006, 2010, and 2014. Each time, both chambers of the US Congress held the hearings on the QDRs before the committees which had jurisdiction over military and defense policy. The members of the committees inquired of the key witnesses – including members of the National Defense Panel, representatives from the Department of Defense, Joint Chiefs of Staffs, and each military service – about military strategy, force structure and modernization programs.

²⁵⁴ Operation Tempo: the rate of unit rotation

²⁵⁵ Personnel Tempo: the rate of personnel rotation

²⁵⁶ The US House, 1995, “Sec. 923. Quadrennial Defense Review”, in *Military Force Structure Act of 1996*.

Considering the fact that military transformation in the post-Cold war period was the core defense policy in the series of the QDRs, these hearings on the QDRs well expose the main issues that the committee members focused on and the responses of the members of Congress to the plan of the Department of Defense. The hearings also show how the Department of Defense rationalized the core assumptions and blueprint regarding the military transformation and advocated affordability of the execution plans that was chosen to achieve the military transformation.

In the hearing on the QDR in 1997, the primary concern in the House National Security Committee was whether the QDR was budget driven or strategy driven²⁵⁷. This issue – strategy driven or budget driven – was the central debate point during the Congressional hearings on the Bottom-Up Review in 1993²⁵⁸. This was also the primary reason that Congress determined to mandate the Secretary of Defense to report the result of an administration-based defense review every four years. Several members of the committee referred to the Bottom-Up Review as the prominent example of budget driven defense review, while the Base Force Plan had been acknowledged as an example of strategy driven plan²⁵⁹. The problem of the budget driven policy document is that the basic assumptions could be unrealistic to build up a sound defense policy. Congress intended to design a defense review process to be led by a sound strategy rather than budget constraint when congress passed the military force structure act in 1995²⁶⁰. This issue also became the primary debate point during the hearings on the first QDR after the military

²⁵⁷ It is a difficult task to determine whether a policy is budget driven or strategy driven. The clear line between these two ways does not exist. Every national defense activity requires a certain amount of budget and there has been always a type of budget limit. In nature, environment of national defense is budget constraint. On the other hand, defense policy has a certain purpose – to protect the country and strategy is the guideline to lead military organizations into the right path to accomplish this purpose.

²⁵⁸ U.S. House of Representatives, 1997, *THE QUADRENNIAL DEFENSE REVIEW: COMMITTEE ON NATIONAL SECURITY HOUSE OF REPRESENTATIVES, ONE HUNDRED FIFTH CONGRESS, FIRST SESSION* (HEARINGS HELD APRIL 16, MAY 21 AND 22, 1997)

²⁵⁹ U.S. House of Representatives, 1997, pp. 87-90; p. 96; pp. 201 -208. Representative Floyd D. Spencer(R-SC), Representative Ron Lewis (R-KY), Representative Ronald V. Dellums (D-CA), Representative Lane Evans (D-IL).

²⁶⁰ The US House, 1995, "Sec. 923. Quadrennial Defense Review", in *Military Force Structure Act of 1996*.

force structure act was passed. Secretary Cohen admitted that the QDR was developed under the constraint of a 250 billion dollar budget²⁶¹.

The committee members also questioned whether the force structure was adequate to execute the strategy of two MTW scenarios. Representative Ronald Dellums (D-CA) pointed out that the force structure in the QDR was not distinguished from the one in the BUR and requested reasonable provenience of the effectiveness of the force structure²⁶². Phillip A Odeen, Chairman of National Defense Panel, responded that the size might be similar but the current force structure was proved to be effective through the effort during a four year period to find the path to make the version of force structure in the Bottom-Up Review operational in the strategy of two major theater wars²⁶³. Secretary Cohen further explained that the force size will be proper to execute the strategy of two MTW with force modernization²⁶⁴.

The discussions regarding force modernization led the hearing on the QDR 1997 to the discussion about the vision of the military transformation. Because the primary criticism of the Bottom-Up Review was about the lack of preparation for the future, the Department of Defense and the Joint Chiefs put enormous effort to escape from the same criticisms from Congress. A more capabilities - based approach was the solution. When the committee members questioned what made the QDR 1997 different from the Bottom-Up Review in the aspect of strategy, General Shalikashvili explained that the Department changed the national defense strategy from the two major regional contingencies strategy to the two major theater wars strategy²⁶⁵. The Department of Defense further explained that the two major theater war strategy was developed to respond not to the two specific regions such as Northeast Asia or the Middle

²⁶¹ U.S. House of Representatives, 1997, pp. 96-99.

²⁶² U.S. House of Representatives, 1997, pp. 21-23.

²⁶³ U.S. House of Representatives, 1997, pp. 65-69.

²⁶⁴ U.S. House of Representatives, 1997, pp. 98-103.

²⁶⁵ U.S. House of Representatives, 1997, pp. 116-123. General John M. Shalikashvili (Chairman of the Joint Chiefs of Staffs)

East but to any region where a theater level military contingency might occur²⁶⁶. By abandoning the regional based scenario and moving to the two theater war strategy, the Secretary of Defense argued that this strategy requires a universal force construct concept which is based on capabilities to execute a theater level war²⁶⁷. He said that the strategy of two major theater wars is a more capabilities - based approach than the strategy of two major regional contingencies²⁶⁸. The Secretary of Defense further presented ‘shaping,’ ‘responding,’ and ‘preparing’ as the three components of the national defense policy to realize the decision to make a balance between present missions and future security²⁶⁹.

In the Senate Hearings, the chairman of joint chiefs presented the joint vision 2010 as the unifying vision based on revolution in military affairs²⁷⁰. He further explained that the component of ‘preparing’ in the national defense policy was the plan to procure essential capabilities to modernize the armed forces into the shape that would be suited for the future security environment²⁷¹. During his explanation, the Chairman presented the Full Spectrum Dominance as the final objective for the organizational change of the military transformation²⁷². He further showed the operational doctrine and concepts of the vision 2010, which included dominant maneuver, precision engagement, joint forces, focused logistics, long range strike capabilities, and full dimension protections²⁷³. He specifically emphasized that all these new operational concepts and doctrines are based on information superiority, which means the ability to collect, process and distribute vast amount of information to our forces, while denying at the same capability to any potential enemy²⁷⁴.

²⁶⁶ U.S. House of Representatives, 1997, pp. 116-123.

²⁶⁷ U.S. House of Representatives, 1997, pp. 103-116.

²⁶⁸ U.S. House of Representatives, 1997, pp. 103-116.

²⁶⁹ U.S. House of Representatives, 1997, pp. 104-106. It was the third way and the mid-way between future and the present.

²⁷⁰ U.S. Senate, 1997, *Quadrennial defense review : hearings before the Committee on Armed Services, United States Senate, One Hundred Fifth Congress, first session, May 20 and 21, 1997*, (U.S. G.P.O., Washington), pp. 18-22; pp. 80 – 81.

²⁷¹ U.S. Senate, 1997, pp. 18 - 22.

²⁷² U.S. Senate, 1997, pp. 20 - 21.

²⁷³ U.S. Senate, 1997, pp. 18 – 22.

²⁷⁴ U.S. Senate, 1997, pp. 80 – 81.

The discussion about the military transformation led the hearings on the QDR 1997 to the issue of how to secure the expense that was required for military transformation. The Secretary of Defense stated that the QDR 1997 estimated the shortage of 10 to 20 billion dollars to fund the military transformation²⁷⁵. As the solution to cover the 10 to 20 billion dollars, the Department of Defense suggested reducing the force structure, closing unnecessary military installations and outsourcing the tasks that could be better performed through civilian institutions²⁷⁶. Regarding further force reduction, the committee members questioned whether the force reduction would undermine the capability to execute the two theater wars strategy. The Chairman of Joint chiefs answered that the force reduction would be focused on the non - deployed part of the forces, which was not required to execute the strategy. He further explained that this force reduction would not affect the operation and personnel tempos of the forces.

With regard to closing unnecessary military installations, Senator Dirk Kempthorne (R-ID) complained that the solutions presented by the Department of Defense were putting too much pressure on Congress by asking to reduce the size of the national guard, solve the depot maintenance issues, enact two more rounds of Base Closure, while not asking the Services to terminate a major weapons system, tackle roles and mission redundancy, and address reduction in force structure²⁷⁷. He further argued that these options brought too much political pain to the members of Congress while the Services avoided sharing the political pain²⁷⁸. The Secretary of Defense answered that the QDR 1997 was not designed to share political pain but it was designed to build the best possible force for the future. He further explained that the options such as two more BRAC rounds, 60/40 changes, and reduction in guard were the essential and necessary steps to get to the right force structure for the future²⁷⁹. He added that there would be a

²⁷⁵ U.S. House, 1997, pp. 135 – 137.

²⁷⁶ U.S. House, 1997, pp. 168-170; pp. 195- 197; pp. 202-204.

²⁷⁷ U.S. Senate, 1997, pp. 31-33.

²⁷⁸ U.S. Senate, 1997, pp. 31-33.

²⁷⁹ U.S. Senate, 1997, pp. 31-33.

legislative recommendation sent to Congress, which required the Office of the Secretary of Defense to absorb as much political pain as Congress²⁸⁰.

In addition, to solve the fund shortage, the concept of revolution in business affairs was considered. The Secretary of Defense explained that the QDR 1997 made significant adjustments and reforms in several weapon procurement programs²⁸¹ and the Department of Defense considered bringing information technology into the Pentagon and changing department operations in the business area²⁸².

In conclusion, the committee members brought several issues such as force reduction, program reforms, and the plan of outsourcing, and they were mostly understood by the DOD witnesses and satisfied by the plans. In reality, the QDR 1997 did not have significant differences from the Bottom-Up Review except for the fact that the QDR 1997 had a clearer vision for the future – Joint Vision 2010 and the military transformation. By connecting these two vision plans with other issues, DOD satisfactorily defended the QDR 1997 and defense programs, and persuaded the committee to approve the policy directions in the QDR 1997. Specifically, they clearly explained the effects brought by the QDR 1997 and made them have a sense of affordability.

D. QDR 2001

²⁸⁰ U.S. Senate, 1997, pp. 31-33.

²⁸¹ The Department of Defense considered several competitions between similar weapon procurement programs – the competition between JSF programs and Navy's F-18 modernization program, the competition between more productions of C-17 vs. using commercial cargo planes. The Department also planned to reduce the target number of F-22 program and V-22 program. The Department further presented a reform of missile defense program, which including more fund for development of NMD and Theater Air and Missile Defense system, slow-down of THAAD program, at the same time considering various assets to prevent further proliferation.

²⁸² U.S. House, 1997, p. 200. The plan of revolution in business affairs was based on the idea that the price will be go down with competition – competition between corporates, competition between public sector and private sector. When the Department of Defense considered outsourcing the functions that were performed by military, the plan included the privatization of maintenance depots, hospital, commissary, and housing.

QDR 2001 contained a more detailed plan of the military transformation. Military transformation was the core issue of the QDR 2001. It was also the pledge of the presidential campaign²⁸³. At the beginning of the House hearings on the QDR 2001, Secretary Rumsfeld announced that the Department of Defense was developing a comprehensive plan to take action for the military transformation which would change the military organization into the military forces for the future²⁸⁴. Considering the fact that the September 11 attack occurred between two congressional hearings on the QDR 2001, the September 11 Attack is a factor that determined the characteristics of the QDR 2001²⁸⁵. The hearing on the QDR 2001 in the House of Representatives was held before September 11, while the hearing in the Senate was held after September 11. The timeframes of these events show that the QDR 2001 should have included the product of discussion on how to deal with the September 11 Attack.

During both hearings on the QDR 2001, the main framework of discussion was how to balance between defense policy for the current time and defense policy for the future²⁸⁶. Representatives in the House put more weight on the policy initiative for the future – the military transformation, while Senators allocated more time to discuss how to respond to the September 11 Attack and prevent future terrorist attacks²⁸⁷. Even though the focus of discussion was tilted to the response to the September 11 Attack in the Senate, the Senate Armed Services Committee found that the military transformation also included policy initiatives to prevent asymmetrical and irregular threats from terrorists and confirmed that the military transformation was headed in the right direction²⁸⁸. Consequently, the military transformation was a common ground shared in both hearings. Moreover, the impact of the September 11 Attack on the

²⁸³ Jim Garamone, 2001, "Bush Addresses NATO, U.S. Military Transformation" in *American Forces Press Service* NORFOLK, Va., (Feb. 13, 2001)

²⁸⁴ U.S. House, 2001, *U.S. National Security Strategy and the Quadrennial Defense Review: Hearing Before the Committee on Armed Services House of Representative, One Hundred Seventh Congress, First Session, held, June 21, 2001*, pp. 11-15

²⁸⁵ June 21 for the House and October 4 for the Senate.

²⁸⁶ U.S. House, 2001; U.S. Senate, 2001, *HEARING BEFORE THE COMMITTEE ON ARMED SERVICES UNITED STATES SENATE ONE HUNDRED SEVENTH CONGRESS FIRST SESSION OCTOBER 4, 2001* (U.S. GPO, Washington D.C.)

²⁸⁷ U.S. House, 2001; U.S. Senate, 2001.

²⁸⁸ U.S. Senate, 2001, pp.81 - 87.

military transformation was minimal. Even though several items are directly addressing the following up responses to the September 11 Attack, testimonies of witnesses in both hearings and the QDR 2001 itself show a solid consistency in the policy regarding military transformation.

The members of the committees focused on how to respond to the September 11 Attack. The committee members asked about the roles of military in the war on terror. Specifically, the debate focused on the organizational reform to support the homeland defense in the aspect of military²⁸⁹. The Under Secretary Paul Wolfowitz stated that the department would submit a proposal to establish a permanent assistant secretary position for homeland defense who would be in charge of coordination with other federal agencies and replace the Secretary of Army, who was temporarily appointed to take the responsibility for the job²⁹⁰.

Senator Jean Carnahan (D-MO) was concerned about how to respond to Chemical Biological Nuclear (CBN) threats on U.S. soil and asked if the military had enough capabilities to support civilian agencies in the event of CBN attacks on civilians²⁹¹. Secretary Wolfowitz answered that National Guard units already had these capabilities and would enhance sufficient capabilities through the ongoing reform which embodied the department's resolve on homeland protection²⁹².

The committee members asked about the affordability of the military transformation. Senator Jeff Sessions (R-AL) raised the issue of OPEMPO and PERSTEMPO that could be caused by the plan of committing 5% of military forces for new experimentation programs²⁹³. He further asked where the Department of Defense would find the funding source for the military transformation in the situation of responding to the current emergency after the September 11 Attack²⁹⁴. To the question about the impact of the September 11 Attack on the military transformation, Secretary Wolfowitz answered that there

²⁸⁹ U.S. Senate, 2001, pp. 91 – 99.

²⁹⁰ U.S. Senate, 2001, p. 107.

²⁹¹ U.S. Senate, 2001, p. 111 – 112.

²⁹² U.S. Senate, 2001, p.89.

²⁹³ U.S. Senate, 2001, pp. 7-8.

²⁹⁴ U.S. Senate, 2001, pp. 7-8

would not be significant change in the plan of the military transformation²⁹⁵. He further argued that the September 11 Attack even confirmed that the direction of the military transformation was right, saying that the problem was that the military transformation had not been implemented quickly enough to prevent a catastrophe like the September 11 Attack²⁹⁶. In the end, Secretary Wolfowitz reported that the department of defense was preparing a series of policy initiatives to accelerate the military transformation in order to ‘transform’ the military into ‘the future force’²⁹⁷. By and large, it is believed that the September 11 attack did not have a significant impact on the military transformation.

The QDR 2001 spelled out the strategy to deter aggressive adversaries with overlapping time frame²⁹⁸. Regarding this strategy, Senator John Warner (R-VA) asked how it was different from the previous strategy, saying that for some time, the United State has been operating with a requirement to fight and win two nearly simultaneous conflicts²⁹⁹. Secretary Wolfowitz answered that the United States still had a requirement to defeat aggression in any two regions in nearly simultaneous time frames³⁰⁰. He confirmed that the strategy of deterring aggressive adversaries with overlapping time frame was based on this requirement, explaining in detail that the Department of Defense evolved the concept of a decisive defeat as another step of defeat, which means ‘marching on to occupy enemy’s capital’³⁰¹.

With respect to the force structure, Senator Susan Collins (R-ME) asked whether the current force structure was the appropriate size of military forces to execute the strategy³⁰². Secretary Wolfowitz answered that the Department of Defense determined to take ‘status quo’ in terms of force structure after the Positive Match exercise that assessed the current force structure as roughly meaning the current

²⁹⁵ U.S. Senate, 2001, pp.81 – 87.

²⁹⁶ U.S. Senate, 2001, pp.92 – 93.

²⁹⁷ U.S. Senate, 2001, pp.81 – 93.

²⁹⁸ Department of Defense, 2001, “III Paradigm Shift in Force Planning,” in *Quadrennial Defense Review 2001*.

²⁹⁹ U.S. Senate, 2001, pp.97 – 100.

³⁰⁰ U.S. Senate, 2001, pp.97 – 100.

³⁰¹ U.S. Senate, 2001, pp.97 – 100.

³⁰² U.S. Senate, 2001, pp.104 – 101.

strategy³⁰³. He further stated that the decision was not made because the Department of Defense liked status quo but because the status quo was the minimum requirement to avoid a point of serious strain in the force in the aspect of OPTEMPO and PERSTEMPO³⁰⁴. In addition to that, Congressman Joel Hefley (R-CO) asked whether the air force was moving from a bomber centric to a fighter centric force, also requesting a proposal of merging four different air forces into one air force due to the duplication of capabilities³⁰⁵. General Shelton answered that the key force was to achieve balance between the fighter force for the air to air superiority, the close air support capabilities, and the bomber forces for the long range strike, while escaping the issue of merging proposal by avoiding direct answer to the question³⁰⁶.

E. QDR 2006

The hearings on the QDR 2006 covered two main issues: the military transformation and the Global War on Terror, which means the military operations in Afghanistan and Iraq (Operation Iraq Freedom and Operation Enduring Freedom)³⁰⁷. When the QDR 2006 was released, what began in the name of the military transformation in the QDR 2001 was about to have a series of outcomes including the result of experimentations, the organization changes, and several decisions regarding the development of weapon systems. Clearly, the military transformation in the QDR 2006 was the continuation of the military transformation in the QDR 2001, with both of them moving in the same direction³⁰⁸.

On the other hand, the year 2005 was the fourth year of the Global War on Terror which was initiated to respond to the September 11 Attack. Since the U.S. Military forces embarked on the first

³⁰³ U.S. Senate, 2001, pp.104 – 106.

³⁰⁴ U.S. Senate, 2001, pp.104 – 106.

³⁰⁵ U.S. House, 2001, pp.34 – 36.

³⁰⁶ U.S. House, 2001, pp.34 – 36. This testimony can be considered as a confirmation that the US military needs to have four different air forces due to the unique mission of each air force.

³⁰⁷ U.S. House, 2006, *Department of Defense Quadrennial Defense Review : hearing before the Committee on Armed Services, House of Representatives, One Hundred Ninth Congress, second session, hearing held, March 14, 2006* (U.S. G.P.O., Washington D.C.); U.S. Senate, 2006, *The Department of Defense Quadrennial Defense Review: hearing before the Committee on Armed Services, United States Senate, One Hundred Ninth Congress, second session, March 8, 2006* (U.S. G.P.O., Washington D.C.).

³⁰⁸ Department of Defense, 2006, "Preface," pp. vii – viii.

military operation in Iraq, the area of operations was expanded to Afghanistan and the military operations in the Middle East were extended into irregular operations such as counter insurgent operations, nation building and other stabilizing operations. In order to fund the Global War on Terror, the U.S. Government heavily relied on supplementals, which is a type of emergency fund, differing from base budget³⁰⁹.

These two vital issues were so essential that the Department of Defense had to balance between them under the situation of resource constraint, rather than abandoning either. The QDR 2006 was the document that contained the agony of the military to accomplish these two urgent missions – preparing for the future and engaging in the current military conflicts in Afghanistan and Iraq³¹⁰. The opening remark of the chairman of the House Armed Services Committee well captured this characteristic of the QDR 2006³¹¹. Congressman Duncan Hunter (R-CA), the chairman of the House Armed Services Committee, opened the hearing by stating that the QDR 2006 had several points of contradiction: first, the QDR 2006 contained the plan to transform the US military into more expeditionary units, at the same time requiring the military to be effective not only in combat mission but also in counter insurgency warfare; second, the QDR 2006 considered long range strike capability as the top priority while it planned to cut the active bombers which were still functioning in the military operations in Afghanistan and Iraq; third, the QDR contained the plan of reduction in force structure while it also pursued the modernization of military forces in the name of the military transformation³¹².

There was an interesting rhetorical debate about the words that described the Global War on Terror between one committee member – Representative Ellen Tauscher (D-CA) and Deputy Defense Secretary England. Representative Tauscher (D-CA) described the Global War on Terror and its warfare

³⁰⁹ The Department of Defense submitted supplemental requests for Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) in FY 2002, FY 2004, FY2006, FY2007. This item was changed into Global War on Terror Requests in FY2008 and FY2009 and eventually was renamed as President's Budget Request for Overseas Contingency Operations (OCO) in FY2010. (<http://comptroller.defense.gov/BudgetMaterials.aspx>)

³¹⁰ Department of Defense, 2006, "Preface."

³¹¹ U.S. House, 2006, pp.1 - 2.

³¹² U.S. House, 2006, pp.1 - 2.

as ‘unconventional,’ ‘unpredictable,’ ‘asymmetrical,’ ‘uncertain,’ ‘unknowable,’ ‘indirect,’ ‘irregular,’ ‘complex,’ adaptable for the enemies,’ and ‘long for the long war, never ending, not knowing when it would be over’³¹³. The committee member also pointed out the fact that the rubric of these words had been used to justify supplementals to fund military operations in Iraq and Afghanistan³¹⁴. When the committee member further asked how to solve the war which was described by those words, Secretary England responded that the only way to react to this type of threat and warfare was preparedness, at the same time arguing those words had been chosen to describe the characteristics of the 21st century military conflict during the post - Cold War era, not for the Global War on Terror³¹⁵.

In addition to this rhetorical debate, several other members warned that these abnormal practices with defense budget such as relying on supplementals for the Global War on Terror and increases in the R&D investment might ruin the national financial status. Representative Mike Conaway (R-TX) criticized the increase of R&D investment as ‘Risk Averse manner,’ arguing that politicians were engaged in a race to see who can frighten the public most with this tendency seeming to translate into military budget as well³¹⁶. Representative Gene Taylor (D-MS) argued that the national defense plan for the next four years – which means the QDR 2006 – did not take the war in Iraq into account because it primarily relied on supplementals³¹⁷. He further pointed out that there has been hidden costs that were not covered by the base budget or supplementals, saying that several National Guard units including his unit were left behind in the priority of maintenance, replacement, and acquisition³¹⁸. Dr. Lawrence Korb supported this argument by testifying that it would be necessary to move these supplementals into the

³¹³ U.S. House, 2006, pp.23 - 25.

³¹⁴ U.S. House, 2006, pp.23 - 25

³¹⁵ U.S. House, 2006, pp.23 - 25

³¹⁶ U.S. House, 2006, pp.27 – 29. Basically, he argued that statements of politicians had been used to justify supplementals for the Global War on Terror. At the same time, what made this justification taken as granted was the attitude of US public toward the war. Regarding the public attitude, the chairman of the committee also pointed out that nobody in American was asked to sacrifice except for the Armed Forces, quoting a statement of General Pace which is saying that “The daily life of the average American citizen reflects none of the hardships or shortages that we associated with a nation at war.”

³¹⁷ U.S. House, 2006, p.51.

³¹⁸ U.S. House, 2006, pp.12 – 14.

regular budget and view the national defense budget all together. He also argued that these supplementals were impacting the national debt³¹⁹.

Representative Solomon P. Ortiz (D-TX) bluntly asked how the Department of Defense would manage several major acquisition programs that began during the Cold War, quoting a criticism that the QDR 2006 failed to kill any Cold War Weapon program³²⁰. Secretary England and Admiral Giambastiani answered that the Department of Defense considered canceling several programs but these decisions need to be made with the consideration of broad spectrum capability³²¹. Admiral Giambastiani further explained that decisions regarding defense program should be based on continuing reviews with long term estimation and considerations, not with sudden cuts or massive new programs³²². This issue was also covered during the Senate hearings. Senator Mark Brandt Dayton (D-MN) asked what recommendation the Department of Defense would make when ‘four dozen system developments’ were not affordable. Secretary England answered that the Department of Defense would make hard decisions based on analysis of the risk to be brought by decisions regarding these development programs³²³.

As the US government deployed the units of National Guard and the reserve component, the use of reserve component in the military operations in Afghanistan and Iraq got the attention of members of Congress. What made the deployment of reserve components a more prominent issue was the fact that the capability to respond to Hurricane Katrina was severely limited by the absence of the National Guard, who were supposed to be called up in the event of natural disasters like Hurricane Katrina³²⁴.

Representative Joel Hefley (R-CO) questioned why the reserve component should be sent to the war

³¹⁹ U.S. House, 2006, pp.50 – 52.

³²⁰ U.S. House, 2006, pp.8 – 11.

³²¹ U.S. House, 2006, pp.8 – 11

³²² U.S. House, 2006, pp.8 – 11

³²³ U.S. Senate, 2006, pp.23 – 26. The decisions included the followings: 1) replacing the overused c-17s, 2) upgrading DD(G) – Guided Missile Destroyer – and standing up DD(X) – stealth destroyer, 3) developing new deep strike long range bomber – manned or unmanned, 4) building the Littoral Combat Ship (LCS) and other riverine capabilities

³²⁴ U.S. House, 2006, pp.12 – 14.

theater and which role the reserve component unit would take in the theater³²⁵. Representative Joel Hefley (R-CO) also pointed out that frequent call - ups of reserve component would destroy the family unity and job careers of the reservists³²⁶. Admiral Giambastiani answered that the Department of Defense considered sending the reserve component to slow down the OPTEMPO of the active component because the fatigue on the active component was at the point of threshold as the Global War on Terror was extended over a long period of time³²⁷. Admiral Giambastiani further explained that the Department of Defense would manage the deployment rotation rate down to under one tour per 6 year period for the reserve forces and one tour per 3 year period for the active forces, and the reserve component would take the low intensity missions such as nation building and stabilizing operations rather than combat missions³²⁸.

Senator Jack Reed (D-RI) raised the issue of force size, specifically, the size of ground forces which include Army and Marine Corps³²⁹. He pointed out the fact that the Army would be reduced to the level of 48,000, asking whether this reduction would compromise the combat effectiveness of the ground forces by the increase of assigned missions to the reduced force structure³³⁰. Admiral Giambastiani answered that the Army was on the way of transformation to modularization, and further explained that the modularized Army would be more effective even after the force reduction due to the increased capability of a modularized brigadier combat team³³¹. Senator Jack Reed (D-RI) also questioned whether the force construct assumptions included the increasing demand for counter insurgent capability, referring to the 1-4-2-1 force construct³³² assumptions. The admiral explained that the 1-4-2-1 force construct was

³²⁵ U.S. House, 2006, pp.11 – 12.

³²⁶ U.S. House, 2006, pp.11 – 12.

³²⁷ U.S. House, 2006, pp.11 – 12.

³²⁸ U.S. House, 2006, pp.11 – 12.

³²⁹ U.S. Senate, 2006, pp.26 – 30.

³³⁰ U.S. Senate, 2006, pp.26 – 30.

³³¹ U.S. Senate, 2006, pp.26 – 30.

³³² U.S. Senate, 2006, pp.26 – 30. The 1-4-2-1 force construct was the concept to maintain the size of forces to execute one homeland protection mission, deterrence mission in the four forward deployed areas, defeating adversaries in two military conflicts with an overlapping time frame, and one small scale military contingency.

developed on the basis of the assumption that the US military could do two major things such as supporting counter insurgency operations in a prolonged irregular conflict and while doing a conventional warfighting operation³³³.

In addition, Representative Susan Davis (D-CA) from California asked what the expected risk would be in regard to the reduction of aircraft carriers, mentioning the retirement of USS JFK, which was the last version of non-nuclear aircraft carriers³³⁴. Secretary England answered that it would take two more years to have a new aircraft carrier and the gap of two years would be covered by increasing the surge rate of aircraft carrier fleets. He further explained that the retirement of USS JFK would make the Navy an all nuclear carrier force, which would be more beneficial³³⁵ than extending the life of USS JFK by spending more than 2 billion dollars per year for maintenance.

After the September 11 Attack, homeland security became the top priority of national policy. One of the critical issue for the federal agencies was how to cooperate with each other and which area of jurisdictions would be assigned to which agencies. Most discussions were about how to cooperate in the area of intelligence. Furthermore, the members of the House Armed Services Committee gave attention to the mission and functions of the US Northern Command that was organized to take charge of cooperation with other federal agencies in the United States. Representative Neil Abercrombie (D-HI) asked what the role of the newly organized US Northern Command was and what it had been doing for the past four years, arguing that the primary purpose of the command had not been achieved³³⁶. Representative Gene Taylor (D-MS) added a question regarding what functions the Northern Command supplied during

³³³ U.S. Senate, 2006, pp.26 – 30.

³³⁴ U.S. House, 2006, pp.25 – 27.

³³⁵ U.S. House, 2006, pp.14 – 15; pp. 25-27. Representative Bartlett raised the issue of the impact of the Global War on Terror on energy security of the United States. The committee member pointed out that oil is the primary energy source of the United State and the 25% of the total oil supply came from the Middle East. Secretary England presented the nuclear carriers and submarines as examples of energy saving, further explaining that the Department of Defense put out specific guidance about energy situation and steps to take in the future regarding energy.

³³⁶ U.S. House, 2006, pp.39 – 40.

Hurricane Katrina³³⁷. Secretary England answered that the Northern Command is in charge of U.S. forces during a time of crisis in America and is an integral part of the Homeland security of the United States, saying that he would submit a detailed report later³³⁸. At the same time, he also answered the Representative Taylor's question, stating that the Northern Command offered communication capability and relief function in the coordination with FEMA during the Katrina disaster³³⁹.

F. QDR 2010

Considering the issues raised during the hearings on the QDR 2010, the military transformation was not the primary subject of the hearings. Rather, committee members of both chambers primarily gave their attention to the situation of budget constraint and its impact on weapon programs, military strategies, force structures, and some military personnel issues³⁴⁰.

Regarding the situation of budget constraint, Senator John McCain (R-AZ) asked about budget items, specifically the category of Overseas Contingency Operations which had previously been named the Global War on Terror³⁴¹. To the question about the purpose of Overseas Contingency Operations fund, Secretary Gates answered that the fund would cover the cost of ongoing military operations in Afghanistan and Iraq along with several supplementals³⁴². He also added that as the military situation in these two countries improves, these funds would eventually move to the base budget, which means the department of defense's peace time cost of operations³⁴³. Senator John McCain (R-AZ) and Senator Carl

³³⁷ U.S. House, 2006, pp.104 – 106.

³³⁸ U.S. House, 2006, pp.104 – 106.

³³⁹ U.S. House, 2006, pp.104 – 106.

³⁴⁰ U.S. House, 2010, *THE 2010 QUADRENNIAL DEFENSE REVIEW: HEARING BEFORE THE FULL COMMITTEE OF THE COMMITTEE ON ARMED SERVICES HOUSE OF REPRESENTATIVES ONE HUNDRED ELEVENTH CONGRESS SECOND SESSION HEARING HELD FEBRUARY 4, 2010*; U.S. Senate, 2010, *HEARING OF THE SENATE ARMED SERVICES COMMITTEE; SUBJECT: DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2011; THE FUTURE YEARS DEFENSE PROGRAM; THE 2011 QUADRENNIAL DEFENSE REVIEW (QDR)*; February 2, 2010; There were issues about Prisoners Of War, Christmas bomber incident and related interrogation, how to apply Miranda Right to POWs.

³⁴¹ U.S. Senate, 2010, pp. 4 – 7.

³⁴² U.S. Senate, 2010, pp. 4 – 10; pp. 28 – 29.

³⁴³ U.S. Senate, 2010, pp. 4 – 10.

Levin (D-MA) expressed concern about a hasty transfer of war time budget into base budget by arguing that the transfer would compromise the capability of warfighting in the ongoing military operations in Afghanistan and Iraq³⁴⁴.

The situation of budget constraint also impacted the military transformation which has been a corner stone of defense policy since 1997. The committee members did not explicitly mention the military transformation. Rather they discussed military acquisition reforms that were initiated by the Department of Defense to review the status of weapon programs and to suggest restructuring of several programs³⁴⁵. Main issues were the Joint Strike Fighter program, the Missile defense program, sea and air lift program, and long – range strike capabilities. All these programs constituted the core weapon systems to realize the military transformation that was described in the QDR 2001 and the QDR 2006.

Senator John McCain (R-AZ), Senator James Inhofe (R-OK), and Senator Claire McCaskill (D-MO) gave attention to the air lift capability because this would guarantee the US military's ability to move operational theaters on time and to secure maximum effectiveness of combat power in the battle field without losing critical timings. They raised the issue of the closing of the C-17 production line, since the C-17s of the squadron have been worn out more than usual from assigning those C-17s to the missions beyond the normal operating rate³⁴⁶. They also questioned the witnesses about what caused the early wear - out of C-17s³⁴⁷. Secretary Gates answered that it was caused by the relatively small size of air fields in Afghanistan and Iraq that make them inaccessible to the C-5, another cargo airplane, eventually making the Air Force more reliant on the C-17s³⁴⁸. He also stated that the department of defense

³⁴⁴ U.S. Senate, 2010, pp. 4 – 10.

³⁴⁵ 1) C-5 and C-17: U.S. Senate, 2010, pp. 4-10; p. 13; pp. 32 – 34. 2) F-35: U.S. Senate, 2010, pp. 4-11; pp. 40-41. 3) long range bomber: U.S. Senate, 2010, pp. 19-21. 4) Missile Defense: U.S. Senate, 2010, pp. 4-11; p. 30; p. 38; U.S. House, 2010, pp. 31-34.

³⁴⁶ U.S. Senate, 2010, pp. 4-10; p. 13; pp. 32 – 34.

³⁴⁷ U.S. Senate, 2010, pp. 4-10; p. 13; pp. 32 – 34.

³⁴⁸ U.S. Senate, 2010, pp. 4-10; p. 13; pp. 32 – 34.

considered various options including upgrading the C-5s and using commercial cargo planes in order to replace the worn out C-17s³⁴⁹.

The purchase of the fifth generation jet fighter was another focal point among military procurement programs in the hearings. Primarily, the committee expressed a positive attitude to the JSF program reform in 2010 which included the option of cancelling the second engine of the F-35³⁵⁰. They evaluated the acquisition reform as appropriate remedy for flaws and cost overrun related to F-35. Nonetheless, the committee requested the Department of Defense's further efforts to deliver F-35 to the Services at the time when needed in the future, while mentioning possibly more critical flaws in the program and the estimation of high operating costs compared to the current jet fighters such as F-18 and AV-8³⁵¹. Senator James Inhofe (R-OK) and Senator Saxby Chambliss (R-GA) asked if the Department of Defense reviewed the necessity of reopening the F-22 production³⁵² line to substitute for F-35, which was not expected to be delivered on time, also addressing the coming of the Russian fifth generation jet fighter T-50 as a potential threat³⁵³.

The long range strike capability was the essential part of the military transformation which put 'getting global scale preemptive strike capability' as a central pillar of the plan. In the hearings on the QDR 2010, the focus was the next bomber project. Senator John Thune (R-SD) asked which role long range bomber would take in the military strategy of the QDR³⁵⁴. The secretary answered that the long range bomber would be an essential part of long range strike capability along with long range missile

³⁴⁹ U.S. Senate, 2010, pp. 4-10; p. 13; pp. 32 – 34.

³⁵⁰ U.S. Senate, 2010, p.4. The original plan was to develop two separate engines for the F-35. It has been a lesson learned from 'the great engine war' in the 1980's – monopoly in engine production would compromise the capability of air force in case of serious malfunction of airplane engines. (New York Times 1984)

³⁵¹ U.S. Senate, 2010, p.4.

³⁵² U.S. Senate, 2010, pp.13- 14; pp. 40 – 41. The F-22 programs was killed in Senate two days before a report of JET was released. This report contained evidence materials to prove that F-35 had several critical flaws and there would be cost overrun and production delays.

³⁵³ U.S. Senate, 2010, pp.13- 14; pp. 40 – 41.

³⁵⁴ U.S. Senate, 2010, pp. 19-21.

forces³⁵⁵. He said that the Department of Defense was considering the modification of the previous generation bombers such as B-2 and B-52 in order to fill the gap until specific decisions regarding the next generation would be made³⁵⁶. Furthermore, he explained that the DOD and JCS determined to develop a next generation long range bomber, while the specific directions had not been chosen yet³⁵⁷. The committee members questioned whether UAV style long range bombers had been considered³⁵⁸. The secretary and chairman of JCS replied that UAV was one of possible options, mentioning that more UAV pilots were graduated than pilots for conventional airplanes in the military³⁵⁹.

Senator Evan Bayh (D-IN) pointed out that the Department of Defense was trying to save almost every weapon program under the difficult fiscal situation³⁶⁰. Senator James Inhofe (R-OK) further requested a balanced prioritization between programs in order to prevent several core development and modernization programs from being unfunded – such as JSTAR upgrade program, Ground based Missile Defense Program, PIM Paladin and FCV for the Army, and ship-based SM-3 for the Navy³⁶¹. Specifically, Senator James Inhofe (R-OK) pointed out that ship - based SM-3 would be the centerpiece of the sea-based missile defense program, considering the hesitation of Eastern Europe Countries to the installation of American missile defense systems in their soils³⁶². He also expressed a concern about the fact that the ship - based SM-3 program would require the transfer of several AEGIS vessels which were assigned to other missions³⁶³. Senator Roger Wicker (R-MS) further asked the Department of Defense to

³⁵⁵ U.S. Senate, 2010, pp. 19-21.

³⁵⁶ U.S. Senate, 2010, pp. 19-21.

³⁵⁷ U.S. Senate, 2010, pp. 19-21.

³⁵⁸ U.S. Senate, 2010, pp. 32-35.

³⁵⁹ U.S. Senate, 2010, pp. 32-35.

³⁶⁰ U.S. Senate, 2010, pp. 34-36.

³⁶¹ 1) PIM: U.S. Senate, 2010, P. 14. 2) JSTAR: U.S. Senate, 2010, p. 32. 3) GMD: U.S. Senate, 2010, p. 38. 4) SM-3: U.S. Senate, 2010, p. 14.

³⁶² U.S. Senate, 2010, p. 14.

³⁶³ U.S. Senate, 2010, p. 14.

develop a comprehensive plan to manage the distribution of assets within the Navy in order not to degrade the Navy's capabilities³⁶⁴.

Along with weapon system, committee members requested specific reasons why the Department of Defense designated Mayport Naval Installation as another location of Home porting for nuclear carriers. The plan of the Department of Defense was to have an additional home port for nuclear aircraft carriers operating in the Atlantic Ocean, where the only home port for nuclear aircraft carriers has been at Norfolk, VA³⁶⁵. The primary purpose was to protect the fleet from terrorist attacks to the facility and to prevent a total loss of aircraft carriers which could be predicted when putting all aircraft carriers in one port³⁶⁶. Senator Jim Webb (D-VA) were against this plan, arguing that it would be inappropriate to have another nuclear carrier home port under the on-going difficult fiscal situation, considering the cost of installing the nuclear reactor maintenance facilities in the new home port³⁶⁷.

In the part of military strategy, the committee members discussed how to balance between COIN and conventional warfare. In detail, Senator Ben Nelson (D-NE) gave attention to how to transfer the military operation to the local police and security forces in Afghanistan and Iraq³⁶⁸. As the combat missions in Afghanistan and Iraq went into the ending phase, the committee members agreed that it was necessary to withdraw the US forces from the Middle East and it would be more beneficial to transfer the missions of stabilizing operations to the local police or their security forces. However, there was a disagreement on the timing of withdrawal. The committee members questioned whether this was the right time to withdraw – if not, when would be the right time for withdrawal of forces³⁶⁹.

³⁶⁴ U.S. Senate, 2010, p. 22 – 24.

³⁶⁵ U.S. Senate, 2010, pp. 24 – 27.

³⁶⁶ U.S. Senate, 2010, pp. 24 – 27; U.S. House, 2010, p. 19 - 20; pp.32 - 33; pp.63 - 64.

³⁶⁷ U.S. Senate, 2010, pp. 15 – 16.

³⁶⁸ U.S. Senate, 2010, pp. 23 – 24 for Senator Wicker.

³⁶⁹ U.S. Senate, 2010, pp. 3 - 4 for Senator McCain (R-AZ) ; U.S. Senate, 2010, pp. 23 – 24 for Senator Wicker (R-MS) ; U.S. Senate, 2010, pp. 34 – 36 for Senator Bayh (D-IN).

Representative Mike Coffman (R-CO) expressed special concerns about how to increase and maintain the combat effectiveness of conventional forces which were designed to fight against regular forces of potential adversaries³⁷⁰. Secretary Gates and Admiral Mullen answered that the Department of Defense developed a plan to transfer the responsibility of the COIN missions to Special Forces Command who had been responsible for this type of operation and to send conventional forces back to their original area of responsibility – to prepare for conventional warfare³⁷¹. To this answer, the committee asked the Department of Defense to consider how to match force structure to the strategy for the future when converting these conventional forces such as Army and Marine units into the war fighting units³⁷².

In the force structure, the size of ground forces and Navy were the primary subjects of the hearings. As the combat missions in Afghanistan and Iraq went into the ending phase, Representative Lawrence Kissell (D-NC) in House and Senator Roger Wicker (R-MS) expressed a concern about the large scale drawdown of military forces which had been assigned to the military operation in Afghanistan and Iraq³⁷³. They asked the Department of Defense to have a long-term comprehensive plan to manage the process of drawdown, while specifically referring to three different types of work force in the Department of Defense such as active soldiers, civilians, and contractors³⁷⁴.

In addition, committee members of both chamber pointed out the fact that the total number of navy ships was far behind the goal of a 313 ship navy and questioned how the department of defense would make up the shortage of ships³⁷⁵. The size of naval forces became a significant force structure issue during the hearings because the QDR's shipbuilding rate (10 ships per year) did not match the expected

³⁷⁰ U.S. House, 2010, pp. 24 – 25; U.S. Senate, 2010, pp. 31 -32

³⁷¹ U.S. Senate, 2010, pp. 31 -32.

³⁷² U.S. House, 2010, pp. 24 -25.

³⁷³ U.S. House, 2010, pp. 64 -65; U.S. Senate, 2010, pp. 23 – 24.

³⁷⁴ U.S. House, 2010, pp. 64 -65; U.S. Senate, 2010, pp. 23 – 24

³⁷⁵ Representative Gene Taylor (D-MS), Representative Robert Wittman (R-VA), and Representative Glenn Nye (D-VA); Senator Roger Wicker (R-MS), Senator George Lemieux (R-FL), Senator Jim Webb (D-VA). U.S. Senate, 2010, pp. 23 – 24; p. 27; p.30;U.S. House, 2010, pp. 17-18; pp. 28 – 32.

shipbuilding rate (12 ships per year) to get to the 313 ship navy³⁷⁶. The issue was further spotlighted due to the recent crisis in Haiti³⁷⁷ and the emerging demand of additional vessels for realizing the ship based SM-3 system³⁷⁸. The chairman of Joint chiefs answered that the Navy has a 30 year ship building plan to achieve and maintain the 313 ship navy but the Navy could not get to the expected shipbuilding rate due to unexpected recent cost increase for the development of the littoral combat ship and other shipbuilding programs³⁷⁹. He further explained that the Department of Defense was going to take acquisition reforms to achieve the goal of the 313 ship navy and it would take around 10 years. He also advocated the goal of the 313 ship navy to meet the commitment in terms of global commitment, stating that the Navy was pressed and operating at a very high tempo, and the high operation tempo would quickly wear out navy capabilities³⁸⁰.

Several personnel - related issues were also covered during the hearings on the QDR 2010. Both committees primarily paid attention to the issues of taking care of the veterans who came back from military operations in Afghanistan and Iraq. They mentioned serious mental illnesses such as PTDS as well as physical wounds which disabled soldiers³⁸¹. Members of both committees further asked the department of defense and the department of veterans to offer adequate and appropriate medical services to those who had these illnesses caused by the global war on terror. In addition to that, they pointed out the fact that one of the main causes of injuries to soldiers was IEDs, and deliberated how to solve the problem of IEDs³⁸². The defense secretary answered that the department of defense developed the

³⁷⁶ U.S. Senate, 2010, pp. 23 – 24; p. 27; p.30;U.S. House, 2010, pp. 17-18; pp. 28 – 32.

³⁷⁷ U.S. Senate, 2010, pp. 31 – 37; p. 27; p.30;U.S. House, 2010, pp. 56 – 57. One committee member asked which part of defense budget was spent for the relief mission in Haiti and what effect the mission brought on defense account and allocation of overall navy capabilities. The witness answered that a career battle group was dispatched due to expected demands on airlift capabilities for the relief mission but there would be no significant effect on aircraft career assets because the aircraft career would be back after unloading helicopters for the mission and the budget for this operation came was secured by the congressional decision on cash flow for the operation.

³⁷⁸ U.S. Senate, 2010, pp. 13 – 15; U.S. House, p. 33.

³⁷⁹ U.S. Senate, 2010, pp. 23 – 24; p. 27; p.30;U.S. House, 2010, pp. 17-18; pp. 28 – 32

³⁸⁰ U.S. Senate, 2010, pp. 23 – 24; p. 27; p.30;U.S. House, 2010, pp. 17-18; pp. 28 – 32

³⁸¹ U.S. House, 2010, pp. 26-28; U.S. Senate, 2010, pp. 9 - 12.

³⁸² U.S. Senate, 2010, pp. 12 – 13; U.S. House, 2010, pp.2; p.13; p. 42.

standing operations procedures to deal with the IEDs³⁸³. He further explained that MRAPs deployed to protect soldiers were significantly effective to reduce the damages from the IEDs³⁸⁴. Furthermore, Senator Clare McCaskill (D-MO) and Senator Mark Begich (D-AK), and expressed concerns about soldiers' overuse and addiction to OxyCotin, which had earned the status of legally approved pain killer³⁸⁵. They asked for further research to study the side effects of the medicine.

Along with these issues, the members of the Senate Armed Services Committee criticized unnecessary contracts with PMCs (private military companies) as not following the proper budget spending procedure and wasting the budget. An example given was the Blackwater program, which was designed to provide navy sailors with training programs about how to defend themselves on board a ship³⁸⁶. The committee member pointed out that this task should have been under the responsibility of active soldiers, not a contractor, and the contract was not properly reviewed by the Department of Navy because the program was in the 'operational and maintenance' block funding, which was under the responsibility of the combatant commander³⁸⁷.

In conclusion, differing from the hearings on previous QDRs, the military transformation was not the focus of the hearings on QDR 2010. Even though the items related to the military transformation were covered and discussed during the hearings, the primary concern was how to manage the defense program under the budget constraint. Committee members of both chambers examined the situation of the growing federal deficit and its impact on defense programs including various weapon systems which were part of the military transformations.

³⁸³ U.S. Senate, 2010, pp. 12 – 13; U.S. House, 2010, pp.2; p.13; p. 42.

³⁸⁴ U.S. Senate, 2010, pp. 12 – 13; U.S. House, 2010, pp.2; p.13; p. 42.

³⁸⁵ U.S. Senate, 2010, pp. 35 – 37.

³⁸⁶ U.S. Senate, 2010, pp. 24 – 26.

³⁸⁷ U.S. Senate, 2010, pp. 24 – 26.

2. House Armed Services Committee Composition

In Congress, the bill is drafted by the committee in the related policy area, even though the determination of a bill – pass or not – is made in the chamber. Considering the fact that each Congressional committee has the responsibility and authority over the issues of its policy jurisdiction, it can be said that the Congressional committees are professional agents in their jurisdictions and the influence of those committees on law making – specifically drafting bills – is enormous. Furthermore, it is necessary to mention that the Congressional committees are not independent organizations that can exert their authority by themselves, but agents of the chambers of the US Congress and representatives from each political party. Consequently, in order to predict the drafts of bills that are created by committees, it is necessary to analyze how each committee is composed and how each committee represents political parties and the chamber.

Assuming that all members of Congress have values of a certain factor (e.g. ideology) and can be evaluated in accordance with their relative positions in the factor space, it is possible to expect how each legislator votes on a legislative agenda (Poole & Rosenthal, 1991). Moreover, a bill satisfying the legislator of the median value in the space of the factor will be passed and become a law, because a simple majority is required for a legislative piece to be passed in a roll call vote in the US House of Representatives. If it is possible to find the preference of the median legislator on a specific issue or bill, it is also possible to predict votes of legislators and the passage of a bill.

While the chamber of the US House of Representatives has authority to determine the passage of a bill by votes, the draft of the bill is the product of the committee which is responsible in the related policy area. The issue areas of federal policies are too diverse for all legislators to understand all the bills that are considered in the Congress. To handle the various issue areas effectively and professionally, entire federal policies are divided into specific policy areas and the Congressional committees are organized to deal with the assigned policy areas. Members of a congressional committee are likely to be

most interested in the related policy area as well as to be considered as professionals among members of Congress. Moreover, legislators other than committee members probably have difficulty understanding the details of bill in a specific policy area. In this case, the committee can lead the legislative process to the preference of the committee and it can draft a bill that well reflects the preference of the committee. Consequently, it can be said that the influence of committee members on bills under its jurisdiction is enormous.

If the influence of committees on the legislative process is enormous, it is necessary to analyze how Congressional committees are composed and who has the authority to control the committees. Traditionally, three approaches are considered to analyze the composition of the Congressional committees. First, committees are organized to represent the preference of the chamber of the US Congress. Due to the fact that Congressional committees are under the control of the chamber, the preference of committees might be similar to the preference of the chamber (Gilligan & Krehbiel). Second, once a committee is established, it can exert a strong influence on the legislative process. Legislators make a lot of effort to be chosen as the related committee member to influence a certain policy area. Members of a congressional committee are likely to be most interested in the related policy area as well as to be considered as professionals among members of Congress. Third, committees can be organized on the basis of the majority party's influence in the chamber (Cox and McCubbin, 1993). One of the privileges that a majority party has is the authority to assign the chair persons of committees and to have earlier access to committee membership than the minority party. Consequently, the preference of a committee is more likely to be similar to that of the majority party.

In order to examine how the House Armed Services Committee has been composed and whose preference has been represented through the committee, I implemented the following process. First, I extracted House members' ideology score by using DW-Nominate Score from roll call data of each

Congressional term³⁸⁸. Second, I extracted the DW-Nominate score of the Armed Services Committee of each congressional term from the House data of each Congressional term by using the House committees' membership data³⁸⁹. Third, I randomly compared the median value of House members' DW-Nominate score to the median value of the House Armed Services Committee members' DW-Nominate score. Fourth, I divided the House members and the House Armed Services Committee members into parties (Democratic and Republican), and analyzed how party members in the Committee represent each party by comparing the median value of each party to that of each party's committee members.

<Table 4-1. House vs. Armed Services Committee>

	103	104	105	106	107	108	109	110	111	112
House	-0.163	0.206	0.211	0.195	0.251	0.342	0.392	-0.141	-0.184	0.446
Committee	-0.115	0.277	0.320	0.327	0.346	0.291	0.371	-0.109	-0.114	0.445
R2-R1	0.048	0.071	0.109	0.132	0.095	-0.051	-0.021	0.032	0.070	-0.001

Note: R1= Row 1, R2= Row 2,

When I examined the difference between the median value of the House members' ideology score and the median value of the House Armed Services Committee members' ideology score during each Congressional term, the committee members' ideology score median value is higher than the House members' ideology score median value, except for the 108th, 109th, and 112th Congress³⁹⁰. It means that the median voter of committee members is more conservative than the median voter of House members, and the product of the committee is likely to be more conservative than the House members.

I also divided the House members and the House Armed Services Committee members of each congressional term into parties (Democratic Party and Republican Party) and evaluated the ideology score of the members of each party in the House and in the committee.

³⁸⁸ I downloaded the data from the website of Voteview.com (<http://www.voteview.com/dwnominate.asp>)

³⁸⁹ I downloaded the data from Charles Stewart's Congressional Data Page (http://web.mit.edu/17.251/www/data_page.html#2)

³⁹⁰ Considering the fact that these Congressional terms have most conservative median voters during the whole period, it is necessary to interpret that the whole house chamber was conservative enough for the House Armed Services Committee to be more conservative than the whole house chamber during these congressional terms

When I examined the difference between the median value of the House Republicans' ideology scores and the median value of the House Armed Services Committee Republican members' ideology scores during each Congressional term, the Republican committee members' ideology score median value is higher than the House members' ideology score median value, except for the 110th and 112th Congress. It means that the median voter of committee members is more conservative than the median voter of House members, and the product of the committee is likely to be more conservative than the House Republicans.

<Table 4-2. Republican Party: House vs. Committee >

	103	104	105	106	107	108	109	110	111	112
House	0.4080	0.4550	0.4820	0.4990	0.5265	0.5540	0.5630	0.6180	0.6550	0.6740
Committee	0.4520	0.4995	0.5040	0.5030	0.5250	0.5870	0.5630	0.5630	0.6680	0.6670
R2-R1	0.0512	0.0435	0.0220	0.0040	0.0015	0.0270	0	-0.0450	0.013	-0.0070

Note: R1= Row 1, R2= Row 2,

When I examined the difference between the median value of the House Democrats' ideology scores and the median value of the House Armed Services Committee Democrats' ideology scores during each Congressional term, the Democratic committee members' ideology score median value is higher than the Democratic House members' ideology score median value during the period from 1993 to 2012. It means that the median voter of committee Democrats is more conservative than the median voter of House Democrats. Considering the fact that conservative ideology coincided with an increase in defense spending, the House Armed Service Committee Democrats are likely to act or vote more favorably to defense spending than the non-committee House Democrats do.

<Table 4-3. Democratic Party: House vs. Committee >

	103	104	105	106	107	108	109	110	111	112
House	-0.3330	-0.3860	-0.3820	-0.3800	-0.3860	-0.3780	-0.3815	-0.3670	-0.3434	-0.3980
Committee	-0.2050	-0.2485	-0.2530	-0.2640	-0.3030	-0.2855	-0.3160	-0.3090	-0.2465	-0.3410
R2-R1	0.126	0.1375	0.1290	0.1160	0.0830	0.0935	0.0655	0.0580	0.0969	0.0570

Note: R1= Row 1, R2= Row 2,

When comparing Democrats and Republicans, the Democratic Party has wider gaps of median values between the House and the House Armed Services Committee than the Republican Party does. It means that the Democratic members of the House Armed Services Committee are likely to pursue their own position rather than representing their party in the matter of defense policy, while Republican members of the House Armed Services Committee are likely to represent their party with slightly more conservative legislative products.

3. Public Opinion and Defense Budget

Considering that Military Transformation is a defense policy to change the shape of the military into an ideal shape, the final products of the military transformation are changes and developments in organization, weapon and equipment, and military doctrines. It is the budget - defense budget - that brings all these changes and developments into reality. In a democratic society, public opinion is a significant source of influence on policy. If there is a positive public opinion to defense spending, the defense budget is likely to increase.

According to the theory of democracy, every decision regarding the affairs of nations is determined by people (Dahl, 1973, 1989). If a nation chooses direct democracy, the people must express their opinions by casting votes on a certain issue. However, most countries do not choose direct democracy but indirect democracy. In indirect democracy, people participate in politics by electing and sending representatives to governmental institutions. What the political representatives are supposed to do in governmental institutions is to offer public services to the public by pursuing public policies (Oleszek, 2011).

Considering the fact that these policies are developed by the government in order to provide the public with commodity and services, it can be said that the public is the consumer of public policies and the government is the supplier of public policies. Moreover, assuming that normally the suppliers react

positively to the demand of consumers in the competitive circumstances like elections, the government is likely to react positively to the demand of the public and develop public policies that might satisfy the public³⁹¹ (Fenno, 1963; Mayhew, 1974).

Additionally, as the public are more satisfied with the current public policies, the incumbent political representatives are more likely to be re-elected. Considering this fact, the political representatives might be responsive to the public opinion even between elections (Fenno, 1963, Mayhew, 1974). In this case, it is possible for the public to affect public policies by expressing their opinion on public policies even during the period between elections. Consequently, the public can affect public policies by making choices on their representatives in elections and expressing their opinion between elections.

In democracies, the impact of public opinion on public policies has been an important political issue. In the normative aspect, scholars support the idea that public policies should be determined and influenced by the public because a democracy has the freedom of political expression and free elections (Dahl, 1971, 1989; Page and Shapiro, 1983). On the other hand, other scholars have been skeptical to this idea while arguing that there are numerous obstacles between public opinion and public policies (Aldrich, 1995; Wilson, 1990; Wright, 1996). They argue that the impact of public opinion has been blocked by various interest groups, and that the mechanism in elections has been ruined by the advantages of incumbent candidate (Mayhew, 1974; Ginsberg, 1990). However, Page and others found that a change in public opinion preceded public policy changes (Page and Shapiro, 1983). They interpreted this finding as the evidence that public opinion can impact public policy.

If the impact on public opinion is considerable, the next issue might be how much public opinion influences the public policy change. Scholars approached this issue with the framework of responsiveness (Arnold, 1990; Lindaman and Heider-Markel, 2002). Some scholars focused on the relative significance

³⁹¹ This thought can be also confirmed by the fact that the government is under the control of the political representatives elected by the public and these representatives are affected by the public through every election.

of related issues – issue salience (Jones, 1994; Lijphart and Grofman, 1984). They argue that as an issue is perceived more salient, policy makers are more likely to be responsive to public opinion about the issue. Other scholars further argue that interest groups and political actors can control public policy by giving prominence to certain issues and manipulating public opinion (Chong and Druckman, 2007).

Some scholars dealt with how to read public opinion and how to reflect it (Dahl, 1989; Wildavsky, 1964). They asked if the absolute majority rule should be followed when reflecting public opinion – if a majority of the public do not want to change public policy, the current policy should be preserved (Dahl, 1989; Wildavsky, 1964). To answer this question, they attempted to divide public policies into two categories: one is the policies that require a majority to change the policies such as enactment of a law or repeal of a law; and the other is the policies in which the change is relatively minimal, not requiring the consent of the majority (Dahl, 1989; Wildavsky, 1964, Russette, 1992). They argue that, in the latter case, the majority rule is not appropriate to determine whether to reflect public opinion in policies, and policy makers should consider the shift in public opinion meaningful even when the consent of the majority does not exist (Dahl, 1989; Wildavsky, 1964, Russette, 1992).

Nonetheless, it is necessary to consider the fact that public policies contain numerous areas of policies and these areas are quite different from each other depending on their related issue areas. Specifically, policy areas such as defense and foreign policy, which deal with external threats and foreign affairs, have been believed to be determined by strategic and external factors rather than by public opinion (Huntington 1963; Janowitz, 1971).

According to the previous research, defense policy deals with two fronts -- one for the external threats, the other for its domestic foundations. Along these two fronts, scholars have divided defense policies into three categories: strategic policy, crisis policy and structural policy (Huntington, 1961).³⁹²

³⁹² The difference between strategic policy and crisis policy is unclear due to the fact that these two sub areas of defense policy deal with same aspect of defense policy (Huntington, 1961). One possible way to distinguish one from the other is to focus on the phase each of them is related to. Strategic policy is more about to develop

Strategic policy and crisis policy primarily deal with the external threats while structural policy deals with the domestic foundations (Ripley, 1980).

According to Huntington, structural policy issues are related to personnel, organizations and equipment procurement (Huntington, 1961; Kaufman et.al., 1985; Hays et.al., 1997). On the other hand, strategic policy pursues specific programs or deals with special situations. Those policies are initiated by external threats such as changes in the international security environment (Huntington, 1961; Ripley, 1980, Hays et.al. 1997). Additionally, crisis policy is about how to deal with the crises which occur with unexpected time and space (Ripley, 1980; 1988). Scholars have focused on the presidential use of military forces in the event of international crisis (Baker, 2001; Hetherington, 2003; Groeling, 2008). Most studies attempted to analyze public opinion about presidential *use of force* or the effect of change in public opinion during the prolonged period of crisis on the following changes of military strategies, including *use of force* (Baker, 2001; Hetherington, 2003; Groeling, 2008).

Some scholars argue that it is possible for Congress to influence structural defense policy such as the defense budget process – program authorization and budget authorization (Deering et.al, 1989). Hays et.al. argue that the influence of Congress has been increased in the defense policy decision-making process because defense policy is related to the federal budget process (Hays et al., 1997). Some scholars attempted to analyze how public opinion influences the scale of the defense budget (Hartley et. al, 1992, Rundquist et.al., 1999; 2002).

Assuming that ‘public officials elected by public’ consider public opinion, it can be said that public opinion might be influential on all three areas of defense policy even though it deals with external threats: the President considers public opinion when he uses his power in crisis and strategic defense policies; members of Congress consider public opinion when they deal with budget issues in structural defense policies.

strategies on the basis of expectation on future contingency while crisis policy is about how to deal on-going crisis with strategies which were developed in advance.

In order to examine the effect of public policy on the defense budget, I developed the following three hypotheses and tested them with public opinion data from 1972 to 2011. According to Page and Shapiro's research, changes of public opinion precede changes in public policy (Page and Shapiro, 1989). In the case of the incremental policy area, a majority is not required to change the contents of policy (Russette, 1992). Federal budgets can be considered an incremental policy area due to the fact that federal budgets are compromises and adjustments of dollar amounts rather than conceptualizations of issues. Moreover, budget changes with an incremental pattern. Considering the fact that one of the important parts of defense policy is to approve defense budget, defense policy – specifically, defense budget – also can be considered an incremental policy area. If defense budget is an incremental policy area, the public opinion about the defense budget might precede the changes of defense budget and influence the defense budget even without a majority of the public.

Hypothesis 1: As public opinion changes in a positive direction, the defense budget is likely to be increased.

On the other hand, the defense budget is a part of defense policy. Assuming that defense policy primarily deals with external threats, defense policy can be influenced by external threats and changes in them. If there are external sources of threats, defense policy will change in order to deal with the sources of threats. To respond to external threats, states need increased budget and defense spending is likely to be increased.

Hypothesis 2: If there are sources of external threats, defense spending is more likely to be increased.

Moreover, defense policy is affected by various domestic factors because its institutional and organizational foundations are based on its citizens and industries. One of the main factors is the national economic status. Considering the fact that defense spending is also a part of the national economy and

defense spending is connected to domestic industries, it can be said that the national economy status can affect the defense budget.

Hypothesis 3: If the national economy status improves, defense spending is more likely to be increased.

As the dataset to test these hypotheses, I considered the period from 1972 to 2011 as the sample years. The period covers the second half of the Cold War (1972 to 1992), the post-Cold War era, and the era of the Global War on Terror. The U.S. experienced various external changes as well as domestic changes. By analyzing this period, I examined the influence of public opinion and the state of war on defense policy, including defense spending.

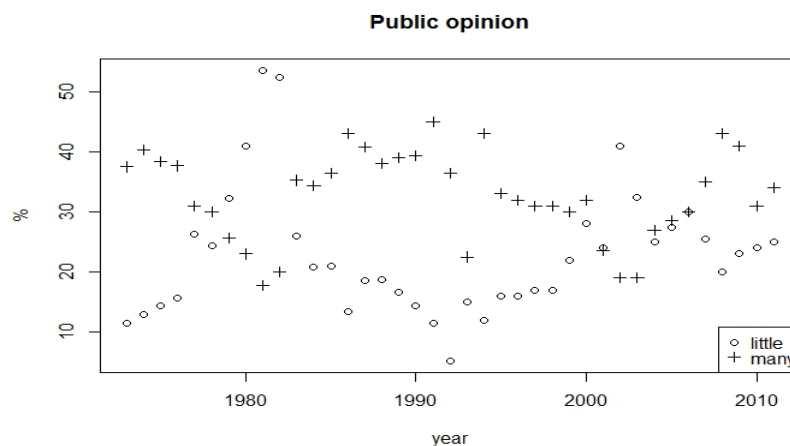
The dependent variable is U.S. defense spending. Considering that the research period covers a period of longer than 40 years, it was necessary to convert the amount of defense budget of each year into one standard. In order to measure defense spending, I converted each year's defense spending by implementing Fiscal Year 2013 constant value of the U.S. dollar. Moreover, it was necessary to define U.S. defense spending specifically due to the fact that there are various different versions of U.S. defense spending³⁹³ - budget resolution, budget authority, and total obligational authority (Russett, 1992, Hays et al. 1997). Budget resolutions, the product of the authorization process, are the amounts of budget for programs that Congress will consider in the appropriation process (OMB, 2008). Budget authority, the product of the appropriation process, is the amount of budget that will be spent by the executive branch in the coming year (OMB, 2008). Lastly, total obligational authority is the actual amount of money that the

³⁹³ The various versions have been caused by the two different budget processes and the time lag between when an appropriation is enacted and when the budget is executed. In the United States, in order for the federal government to pursue a certain program or policy, it is necessary to obtain Congressional approval on the federal budget. The budget process consists of two different tasks - authorization and appropriation (OMB, 2008). In definition, authorization means the process by which the executive branch obtains the authority from the Congress in order to pursue a certain program or policy (OMB, 2008). The other task in the budget process is appropriation. Appropriation is the process to settle the annual budget -- how much money will be spent for the programs and policies during a certain year (OMB, 2008). Essentially, the authorization is centered on approving or disapproving a program and policy, rather than determining a certain budget for the program (OMB, 2008).

executive branch will spend in a given year and is calculated in accordance with various economic factors of the time (OMB, 2008). I used the total obligation authority, because this is the actual amount of budget that the Department of Defense spends in a given year, reflecting the national economic status of the year as well.

The independent variables are public opinion of a given year, national economic status, and the state of war. The first and primary independent variable is the public opinion. In order to measure the public opinion, I use the result of four different public opinion polls such as Gallup, Cambridge social research, General Social Survey, and Roper survey. I searched the questions that asked about opinions on military spending during the sample period. I found five questions, most of which were about how each respondent feels about the amount of defense spending in a given year (See appendix). Among four choices from ‘too little’, ‘too many’, ‘right amount’, and ‘no opinion’, I focus on the percentage of ‘too little’ and ‘too many’. I treated ‘right amount’ and ‘no opinion’ as the opinions of those who are not interested in this problem or are satisfied with the current military budgets.

<Figure 4-1: ‘Too little’ and ‘Too many’ military spending (1972 to 2012)>



Source: Gallup (2969-2010) and General Social Studies (1970-2010) (See footnote 395,396)

Due to the fact that public opinion surveys are not taken regularly (e.g. quarterly, yearly, etc.), it is necessary to fill in the blank time period³⁹⁴. In order to fill in the blanks, I averaged two survey polls – Gallup³⁹⁵ and General Social Studies³⁹⁶ — that cover the entire sample period. Before averaging them, I checked the similarity between surveys from these two survey houses and they show a high degree of similarity. Consequently, it is possible to fill in the blank spots by averaging these two surveys.

Considering the fact that defense spending is a part of federal budgets to be approved by the President and Congress, defense policy makers might pay attention on the White House and Congress. Due to the fact that ‘planning the federal budgets’ is closely related to the national economy status, the President and Congress might seriously consider the constraint of national debt when they approve defense spending. In order to measure the national economic status that might be influential on defense spending, I use the federal deficit of a given year as an indicator (see reference: dataset). Since this variable also covers the period longer than 40 years, I convert it into Fiscal Year 2013 constant value of U.S. dollar.

In order to measure the external threats that might influence defense spending, I use the state of war. If a country is in a state of war³⁹⁷, the country is more likely to increase defense spending in order to respond or react to the threats coming from the war. After the Second World War, the U.S. was in the

³⁹⁴ General Social Studies surveys are taken bi-annual and Gallup had a missing period from 1972 to 1974. In order to fill these blank spot, I averaged the result of the two surveys.

³⁹⁵ Gallup polls’ question (1969-2012): Q. There is much discussion as to the amount the government in Washington should spend for national defense and military purposes. How do you feel about this? Do you think we are spending too little, too much, or about the right amount?

³⁹⁶ GSS (1970-2010)

Q1. (We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount.) Are we spending too much, too little, or about the right amount on... the military, armaments and defense?

Q2. (We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount.) Are we spending too much, too little, or about the right amount on... national defense?

³⁹⁷ I used the divisions of era is commonly referred in the text book of international relations.

Cold War. In this period, the U.S. competed with the Soviet Union in the matter of military capabilities as well as other social dimensions, and considered the Soviet Union as the main external threat. After the Cold War ended, there were not any significant external threats even though there were some small scale conflicts and terror attempts until September 11 of 2001. Compared to other periods, this period can be considered a period of peace. However, after September 11, 2001, the U.S. has been in a state of war – the Global War on Terror. Considering the scale of military actions and military spending during this period, the Global War on Terror can be considered as a state of war even though the main threat to the U.S. is not a normal state like the Soviet Union during the Cold War era. I coded ‘1’ for the Cold War period and the Global War on Terror period, otherwise ‘0’.

The dependent variable is the change of defense spending from 1972 to 2012. The independent variables are 1) averaged % of ‘too little military spending’ in surveys of two public opinion survey houses, 2) federal deficit of a given year, 3) whether or not the U.S. was in a state of war in each year. Considering the fact that the federal budget is passed in the previous year of the target year, it is necessary to apply a time lag between independent variables and dependent variable. I applied a one-year time lag (t-1) for all three independent variables and examined the effect of them on the next year’s defense spending (t). In order to examine the correlation between dependent variable and independent variables, I applied a linear regression model.

<Figure 4-2. Estimation model of defense spending >

$$\begin{aligned} \text{Defense Spending } (t)_i = & \alpha + \beta_1 \cdot \% \text{ of 'too little' } (t-1) + \beta_2 \cdot \text{Federal Deficit } (t-1) \\ & + \beta_3 \cdot \text{State of War } (t-1) \end{aligned}$$

In order to examine the effect of the Global War on Terror, I changed the sample period into the period from 1992 to 2012 and ran a different model with the same variables. By changing the sample

period, I examine the change of the state of war, from the Post-Cold war era to the era of the Global War on Terror.

When I examine the model, all three factors show positive relationships with defense spending in a broad sense. During the period from 1972 to 2012, the public opinion shows a positive effect on defense spending but it does not show statistical significance of 5% confidence interval (coefficient: 0.1836, p value: 0.1895; see table 1., % of ‘too little’ with entire sample period). However, it has a relatively high statistical significance even though it does not satisfy the 5% confidence interval, and it can be a meaningful factor that might affect defense spending in some specific situations such as a state of war. Consequently, it needs to be considered as a potential factor that can predict or estimate defense spending.

<Table 4-4: Effect of Public Opinion and other factors on Defense Spending>

	Model1(Entire Sample Period)	Model2 (After the Cold war)
	Change of Defense Spending	Change of Defense Spending
A. % of ‘too little’	0.18363 (0.1895)	0.5289 (0.0043)**
B. Federal Deficit	0.01773 (0.000571)***	0.00582 (0.109)
C. the State of War	7.5517 (0.048)*	18.5805 (1.71×10^{-5})***
Const.	5.4927 (0.2028)	-1.4652 (0.7108)
Obs.	42	20

Note: *** >0.001, **>0.001, *>0.05

Federal deficit has the highest level of statistical significant during the whole sample period but with positive correlation, which is opposite to the hypothesis (coefficient: 0.0173, p value: 0.000571; see table 4-4). I predicted a negative correlation between government spending and federal deficit – if the deficit increases, defense spending might decrease in order to reduce the deficit. However, when the government faces important and urgent national security issues such as the Soviet’s threats during the Cold War and the Global War on Terror since 2001, the government is likely to increase defense spending even though more defense budget increases federal deficit.

I also examined the effect of a state of war. It has a positive effect and statistical significance of the 5% confidence interval (coefficient: 7.5517, P value: 0.048; see table 4-4). It confirmed the hypothesis in which the Cold War and the Global War on Terror have a positive effect on changes in defense spending.

When I examined the model with a different sample period – the post-Cold War era –, all three dependent variables show a positive relationship with defense spending even though the specific results are different from the result of the entire sample period. Being different from the result of the entire sample period, public opinion had a positive effect and statistical significance of 1% confidence interval during the post-Cold War period (coefficient: 0.5289, P value: 0.0043; see table 4-4). The coefficient is four times higher than that of the entire sample model. It can be said that public opinion became a more salient factor after the Cold War than in the Cold War period.

The Global War on Terror shows a positive effect and statistical significance of 0% confidence interval (coefficient: 18.58, P value: 1.71×10^{-5} ; see table 4-4). Compared to the result of the entire period, which includes the Cold War period as well as the Global War on Terror, this result is almost three times higher. Consequently, the Global War on terror has more impact than the Cold War did during the Cold War period.

Examining its effect on defense policy, public opinion shows relatively positive and significant correlation with defense spending even though defense policy primarily deals with external threats and is planned and led by professional officials. However, public opinion's influence is likely to increase in accordance with the intensity of external threats and changes of external environment. Public opinion has more impact in the period of transition from war to peace or peace to war. Moreover, considering the fact that the post-Cold War era and the era of the Global War on Terror are relatively shorter than that of the Cold War era, it can be concluded that public opinion is more influential in the case of short durations of external factors.

4. Summary

Military transformation in the post-Cold War era is an example that shows how American militarism works in American society. Considering that Military Transformation is a defense policy to change the shape of the military into an ideal shape, the final products of the military transformation are changes and developments in organization, weapons and equipment, and military doctrines.

In the political arena, Congress has been the main source of influence on military affairs. Even though foreign policy and use of force have been primarily under the influence of the executive branches such as the White House and Department of Defense, Congress has the authoritative power of funding military programs and governmental oversight regarding military and defense policy. Furthermore, issues in military affairs are under the jurisdiction of the Armed Services Committees in both chambers of Congress. Most members of both committees have the experience of military service and come from regions which are connected with the military in aspects of demography or regional economy. These attributes of committee members guarantee proper representation of regional interests and position of military services, while they also lead committee members' decisions to be distracted by other issues such as regional economy and inter-service rivalry, rather than effectiveness of military forces, which also can be considered signs of militarism.

Congressional hearings on the official DOD documents regarding military transformation is one indicator to read the congressional response to the military transformation. The Base Force Plan was evaluated as a "very strategy driven" document in the aspects of force structure and supporting capability for the force structure. The committee members understood the security environment of the post-Cold War era and the strategy to deal with it in the big picture of national defense policy. During the hearing on the report of the Bottom - Up Review in the House, almost every member of the House Armed Services Committee did not support the Bottom-Up Review. The criticism was that: the report was budget driven;

the force structure did not match the strategy; it was based on a higher level of risk than the Department assumed; and it did not show a clear picture of how to prepare for the future.

Differing from the report of the Bottom-Up Review, the QDR 1997 had a clearer vision for the future, contained in *Joint Vision 2010* and the military transformation. By connecting these two vision plans with other issues, DOD satisfactorily defended the QDR 1997 and defense programs, and persuaded the committee to approve the policy directions in the QDR 1997. In 2001, even though the focus of discussion was tilted to the response in the Senate to the September 11 attack, the Senate Armed Services Committee found that the military transformation also included policy initiatives to prevent asymmetrical and irregular threats from terrorists and confirmed that the military transformation was headed in the right direction, as the House Armed Services Committee had confirmed before the September 11 attack. Even though several items are directly addressing the follow-up responses to the September 11 attack, testimonies of witnesses in both hearings and the QDR 2001 itself show a solid consistency in the policy regarding military transformation. The hearings on the QDR 2006 covered two main issues: the military transformation and the Global War on Terror. The focus of the hearings was how to balance between these two issues under the situation of resource constraint, rather than abandoning either. Differing from the hearings on previous QDRs, the military transformation was not the focus of the hearings on QDR 2010. Even though the items related to the military transformation were covered and discussed during the hearings, the primary concern was how to manage the defense program under the budget constraint. Committee members of both chambers examined the situation of the growing federal deficit and its impact on defense programs including various weapon systems which were part of the military transformations.

In sum, both committees responded positively to the military transformation and showed the tendency to support strategy driven plans – the Base Force Plan, the QDR 1997, 2001, 2006 –, which presented a blueprint for the coming years and guaranteed more investment in Research and

Development, while criticizing the report of the Bottom-Up Review and the QDR 2010 as budget driven plans.

The composition of committees is another indicator that predicts possible legislative outcomes in a policy jurisdiction in Congress. Members of a congressional committee are likely to be most interested in the related policy area as well as to be considered as professionals among members of Congress. In this case, the committee can lead the legislative process to the preference of the committee and can draft a bill that appropriately reflects the preference of the committee. Since the ideology of legislators is an important factor in legislative voting and the fate of a roll call vote in House is determined by a simple majority, it is possible to measure the ideological composition of committees and further to predict possible legislative outcomes. During the period, the median voter of committee members is more conservative than the median voter of House members, except for the 108th, 109th, and 112th Congress; the median voter of committee Republicans is more conservative than the median voter of House Republicans, except for the 110th and 112th Congress; the median voter of committee Democrats is more conservative than the median voter of House Democrats. Considering the fact that conservative ideology coincided with an increase in defense spending, in most cases the House Armed Service Committee members/Republicans/Democrats are likely to act or vote more favorably to defense spending than the non-committee House members/Republicans/Democrats do, respectively.

When comparing Democrats and Republicans, the Democratic Party has wider gaps of median values between the House and the House Armed Services Committee than the Republican Party does. It means that the Democratic members of the House Armed Services Committee are likely to pursue their own position rather than representing their party in the matter of defense policy, while Republican members of the House Armed Services Committee are likely to represent their party with slightly more conservative legislative products.

In a democratic society, public opinion is also a significant source of influence on policy. Furthermore, it is the budget - defense budget - that brings all these changes and developments of the military transformation into reality. Consequently, if the U.S. public opinion on defense spending is positive, the defense budget is likely to increase. When I examined the effect of three factors – such as public opinion, the Global War on Terror, and the federal deficit – on the defense budget during the post-Cold War era, public opinion and the Global War on Terror showed a positive relationship with defense spending. According to the result of analysis in chapter 3, public opinion showed a positive and significant correlation with defense spending. However, public opinion's influence is likely to increase in accordance with the intensity of external threats and changes of external environment. Public opinion has more impact in the period of transition from war to peace or peace to war than in the period of a continuing state of war such as the Cold War period. Moreover, considering the fact that the post-Cold War era and the era of the Global War on Terror are relatively shorter than that of the Cold War era, it can be concluded that public opinion is more influential in the case of short durations of external factors.

In summary, militarism is a type of ideology that gives more value to military ideas than to civilian life. In general, militarism coincides with conservatism and individualism. Considering the political environment inside Congress and the public mood reflected in public opinion, it is highly probable that there has been a unique type of militarism in the United States. In the political arena, the congressional committee which is responsible for national defense seems inclined to be conservative in the matter of ideology – more conservative than the median in the House of Representatives. Speaking of public opinion, the US public has shown a relatively high level of confidence in the military compared to other public service organizations. The Gallup polls asking about public confidence in the military since the year 2001 have shown that the US public has maintained their support for their military, even after the twelve years of military engagement in Iraq and Afghanistan. The level of public support to the military has positively influenced defense budget increases.

Chapter 5: Militarism and Military Transformation - Defense Industries

1. Defense Acquisition process: JCDIS³⁹⁸, DAS³⁹⁹, and PPBES⁴⁰⁰

One of the objectives of the military transformation is to equip military forces with the advanced weapons systems that embody the required capabilities for the military transformation. These weapon systems are delivered to the military forces through the defense acquisition process, which consists of identifying required capabilities, development and procurement, and budgeting. Among these three components of the defense acquisition process, the military transformation brought significant changes to ‘identifying required capabilities,’ and ‘development and procurement.’ The third component, ‘Budgeting,’ which is referred to Planning, Programming, Budgeting, and Execution System (PPBES), did not have significant changes since Secretary McNamara implemented the system into the defense area in the 1960’s⁴⁰¹.

The first part, ‘identifying required capabilities’ has been a task of the military including the Joint Chief of Staffs (JCS) and the Services. Even though the JCS has been an influential actor in the process of generating identification of required capabilities⁴⁰², it was each military service that took primary responsibility to develop the requirements of new weapon systems. In the aspect of generating requirements, the best way to fit the requirements of the user – in this case, each military service – is to develop weapon systems that meet the specific needs of each military service⁴⁰³. This is the tradition of

³⁹⁸ Joint Capabilities Integration & Development System.

³⁹⁹ Defense Acquisition System.

⁴⁰⁰ Planning, Programming, Budgeting & Execution Process.

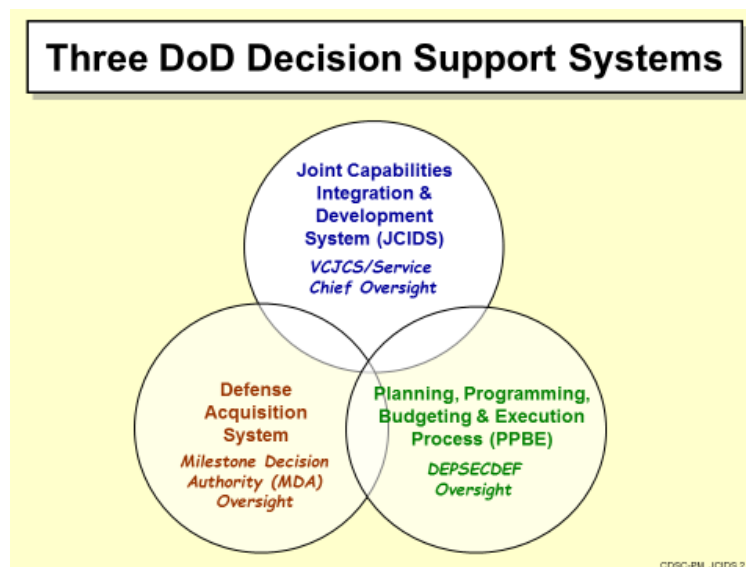
⁴⁰¹ Alain C. Enthoven and K. Wayne Smith, 2010, “New Concepts and New Tools to Shape the Defense Program,” in *How Much Is Enough: Shaping the Defense Program 1961-1969*, pp. 31-72

⁴⁰² Defense Acquisition University, 2004, *JCIDS Overview Brief*, slide 4-7 (<https://acc.dau.mil/adl/en-US/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>)

⁴⁰³ Defense Acquisition University, 2004, Slide 4.

military procurement and the reason for the existence of the three different military service departments such as the department of Army, Navy and Air Force. The military transformation brought a significant change to this traditional custom of military procurement. What the military transformation brought was the Joint Capability Integration and Development System (JCIDS) which was one of the top priorities of Secretary Rumsfeld⁴⁰⁴.

<Figure 5-1. DoD Acquisition Decision Support System >



Source: Defense Acquisition University, 2004, *JCIDS Overview Brief*
 (<https://acc.dau.mil/adl/enUS/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>)

The primary purpose of JCIDS is to support the Joint Requirement Oversight Council (JROC) to ensure that the requirement generating system of the Department of Defense serves appropriately for the defense acquisition system, which is the process to develop, produce, and acquire the required capabilities for the Armed Forces⁴⁰⁵. The JROC has performed in the defense acquisition process as the main

⁴⁰⁴ See Figure 5-2; Force Structure, Resources, and Assessments Directorate (JCS J-8), 2006, *Capabilities-Based Assessment (CBA) User's Guide Version 2*, pp.4-5.

⁴⁰⁵ Force Structure, Resources, and Assessments Directorate (JCS J-8), 2006, pp. 22-24; 2013, JROC/JCIDS Updated Processes, pp. 4-7.

participant, generating the requirement of necessary capabilities and representing the Department of Defense and the Joint Chief of Staffs⁴⁰⁶. Even though the JROC was in charge of oversight over the defense acquisition system, the JROC was not able to intervene in the process and exercise its authority effectively. Prior to the JCIDS, the Requirements Generating System (RGS) supported the JROC to manage the defense acquisition system. This system was based on the idea that each service is primarily in charge of the requirement generation⁴⁰⁷.

In RGS system, the Joint Warfighting Capabilities Assessment is supposed to support regional combatant commands to provide assistance in the Mission Need Analysis process – the first stage of requirement generation. Nonetheless, the RGS manual said that the joint team can step into the process not to lead the process but to see that responsible DOD components are identified to provide assistance⁴⁰⁸. This means that the joint team participation is not a mandatory but an optional condition. This system had not generated significant disagreement in the traditional defense acquisition process, but it did not fit well with the trend of the military transformation, which emphasized joint operation and capability based approaches.

This uncomfortableness was well expressed in the memorandum that Secretary Rumsfeld sent to the Vice Chairman of the joint chiefs of staffs who was the chairman of the JROC⁴⁰⁹. In order to solve these shortcomings of the RGS, the Office of Secretary of Defense initiated several studies to develop a process management system to support the JROC's oversight mission on the defense acquisition system⁴¹⁰.

⁴⁰⁶ Force Structure, Resources, and Assessments Directorate (JCS J-8), 2006, pp. 22-24; 2012, JROC/JCIDS Updated Processes, pp. 4-7; Joint Chiefs of Staffs, 2012, *MANUAL FOR THE OPERATION OF THE JOINT CAPABILITIES INTEGRATION AND DEVELOPMENT SYSTEM*, p.2

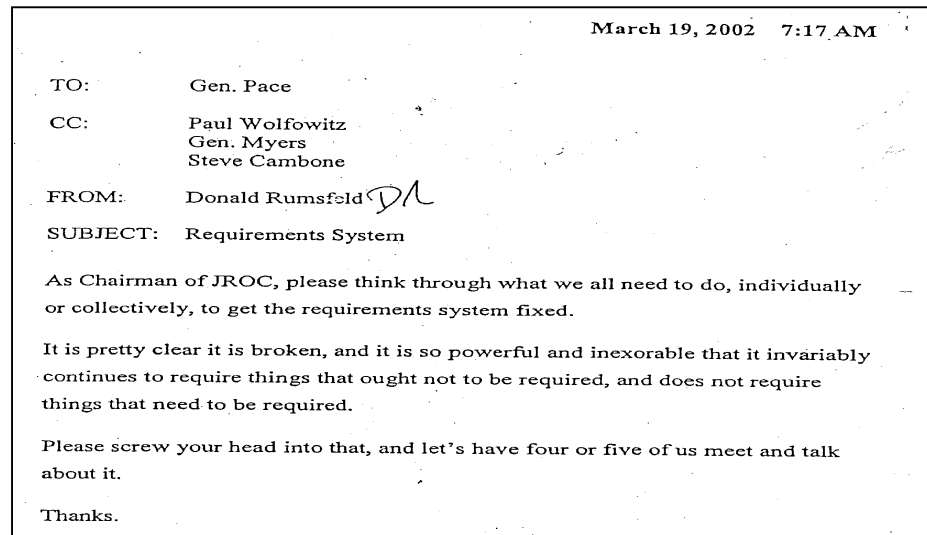
⁴⁰⁷Chairman of Joint Chiefs of Staffs Instruction, 2001, "Enclosure A: Requirement Generation System," *Requirement Generation System*, pp. A-1-2; "Enclosure B: Requirement Generation Process" p. B-5; Defense Acquisition University, 2004, JCIDS Overview Brief, slide 6, (<https://acc.dau.mil/adl/enUS/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>)

⁴⁰⁸ Chairman of Joint Chiefs of Staffs Instruction, 2001, "Enclosure B: Requirement Generation Process" p. B- 6

⁴⁰⁹ See Figure 5-2 in the next page.

⁴¹⁰ Force Structure, Resources, and Assessments Directorate (JCS J-8), 2006, pp. 4-7.

<Figure 5-2. Rumsfeld Memorandum Regarding Defense Acquisition>



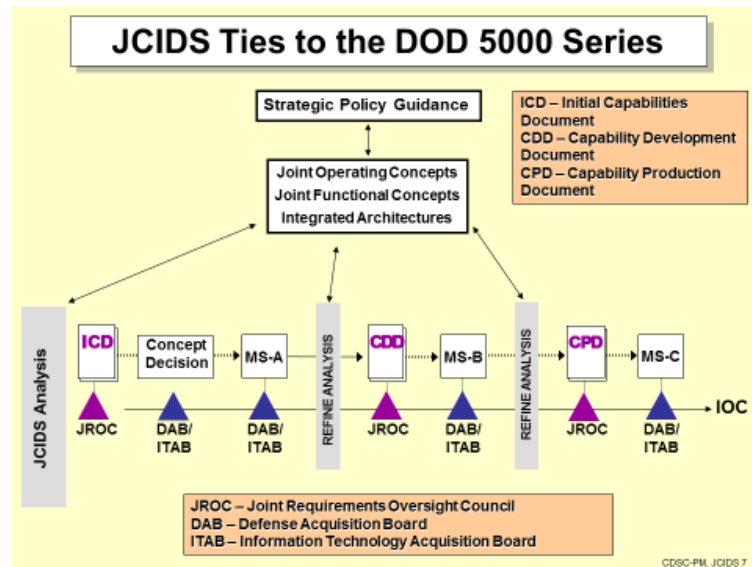
The product of deliberation within the department of defense and Joint Chief of staff was the JCIDS. Differing from the RGS, JCIDS more focused on the joint-ness and capability-based approaches to the defense acquisition system by producing the joint capabilities documents in the early stage of system development, which describes the requirement for the major defense acquisition program by responding to required capabilities rather than to specific threats⁴¹¹. The joint capability documents function as a guideline that leads the entire process of defense acquisition process⁴¹². Moreover, the JCIDS divides the joint capabilities requirement into specific joint capability areas and assigns a Functional Capability Board (FCB) to each specific joint capability area⁴¹³. The JCIDS guarantees FCB to actively participate in the every single step of the defense acquisition process and to advise the JROC to generate the capability documents which prescribe the required capabilities for milestones of a defense program until the program enters the stage of initial operational capabilities.

⁴¹¹ Defense Acquisition University, 2004, *JCIDS Overview Brief*, slide 4-6, (<https://acc.dau.mil/adl/enUS/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>).

⁴¹² Joint Chiefs of Staffs, 2012, "B: Document Generation", p. B-1 - 4; B-9 - 14; B-27 - 39;

⁴¹³ Joint Chiefs of Staffs, 2012, "G: Joint Prioritization," pp. G-1 - 3; Chairman of the Joint Chiefs of Staff Instruction, 2012, *Joint Capability Integration and Development System*.

<Figure 5-3. Interaction between JROC and DAS >



Source: Defense Acquisition University, 2004, *JCIDS Overview Brief*

(<https://acc.dau.mil/adl/enUS/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>)

The JROC, with the support of JCIDS, interacts with steps in the defense acquisition process. In order to interact with the defense acquisition process, the JROC generates several capability documents such as Initial Capability Document (ICD), Capability Development Document (CDD), and Capability Production Document (CPD) which describe necessary conditions to evaluate whether a defense program satisfies the capability requirements of specific milestones of the program. With JCIDS, the JROC considers various ‘material’ and ‘non- material’ solutions to fill the capabilities gaps discovered through JCIDS’ capability based analyses⁴¹⁴. The material solutions are specified in the Initial Capabilities Documents (ICD) which contains capabilities requirements of a defense acquisition program⁴¹⁵. Based on

⁴¹⁴ Force Structure, Resources, and Assessments Directorate (JCS J-8), 2006, *Capabilities-Based Assessment (CBA) User's Guide Version 2*.

⁴¹⁵ Joint Chiefs of Staffs, 2012, “B: Document Generation”, p. B-1 – 4; Chairman of the Joint Chiefs of Staff Instruction, 2012, “Enclosure A: Joint Capabilities Integration and development System,” in *Joint Capability Integration and Development System*, pp. A-1-4.

ICD, the Defense Acquisition Board (DAB) develops a concept decision that describes conceptualized features of the defense acquisition program in the ICD and reports to the JROC a mile stone – Mile Stone A (MS-A) – as a review of whether a material solution of a program fits the requirements in the ICD.

After the review on the MS-A and further analyses on the material solutions of the program, the JROC prepares a Capabilities Development Document (CDD) that describes operational performance attributes of the acquisition program on the basis of technology developments⁴¹⁶. The CDD specifies the technological requirements of an acquisition program and supports the Defense Acquisition Board (DAB) to develop required technologies. As a review of the technology development phase, the DAB reports Mile Stone B (MS-B) to the JROC in order to decide whether the technological developments satisfy the capability requirements in CDD.

When the review on the MS-B satisfies the JROC, the program enters the engineering and manufacturing phase. In this phase, the JROC prepares a Capabilities Production Document (CPD) that describes production attributes for a single increment of the acquisition program⁴¹⁷. In an evolutionary program, an updated version of CPD is prepared for each increment to a defense acquisition program. In this phase, the DAB develops and tests prototypes of the defense acquisition program to satisfy each CPD for each increment to the program. When a defense acquisition program is matured enough to enter into the production and deployment phase, the DAB reports the Mile Stone-C to the JROC to determine the program's maturation for production.

Along with the JCIDS, the EA/SD was suggested as a defense acquisition strategy for the military transformation in 2003⁴¹⁸. The EA/SD consists of two elements: Evolutionary Acquisition and Spiral

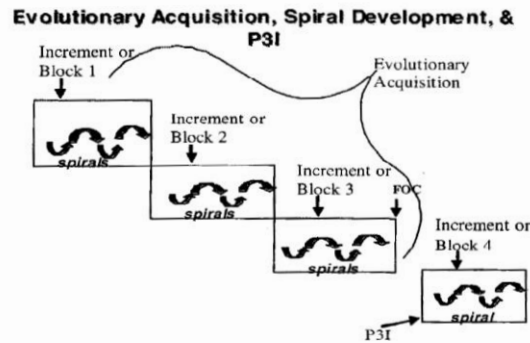
⁴¹⁶ Joint Chiefs of Staffs, 2012, "B: Document Generation", p. B-9 – 14; Chairman of the Joint Chiefs of Staff Instruction, 2012, "Enclosure A: Joint Capabilities Integration and development System," in *Joint Capability Integration and Development System*.

⁴¹⁷ Joint Chiefs of Staffs, 2012, "B: Document Generation", p. B-27 – 39; Chairman of the Joint Chiefs of Staff Instruction, 2012, "Enclosure A: Joint Capabilities Integration and development System," in *Joint Capability Integration and Development System*.

⁴¹⁸ Kenneth Farkas and Paul Thurston, 2003, "Evolutionary Acquisition Strategies and Spiral Development Processes Delivering Affordable, Sustainable Capability to the Warfighters" in *PM*. pp. 10-14.

Development. The evolutionary acquisition represents a strategy to approach defense acquisition, and the spiral development means a process to achieve the strategy of evolutionary acquisition⁴¹⁹.

<Figure 5-4. Evolutionary Acquisition, Spiral Development, & P3I>



source: <http://www.secnav.navy.mil/rda/Policy/2002%20Policy%20Memoranda/041202acq.pdf>

Differing from the previous strategy of defense acquisition that pursued development of a complete system in one step, the evolutionary acquisition attempts to divide a system or a program into known parts and unknown parts⁴²⁰. The known parts are the portion of a new system that can be expected to be completed within a specified time frame, while unknown parts are the portions in which concepts and technologies are underdeveloped, so it is not possible to predict final outputs and timeline of completion⁴²¹. For known parts, development proceeds with a foreseeable timeline and output. For unknown parts, the parts are divided into several increments. Each increment of the unknown parts upgrades the known part, once development of the increment is complete.

By taking the evolutionary acquisition strategy, the military transformation could avoid unnecessary waste of time and funds which would be required to complete the unknown parts of a

⁴¹⁹ Kenneth Farkas and Paul Thurston, 2003.

⁴²⁰ Kenneth Farkas and Paul Thurston, 2003; Gary J. Pagliano and Ronald O'Rourke, 2004, *Evolutionary Acquisition and Spiral Development in Programs: Policy Issues for Congress (CRX Report for Congress)*.

⁴²¹ Kenneth Farkas and Paul Thurston, 2003; Gary J. Pagliano and Ronald O'Rourke, 2004.

program⁴²². This strategy was able to offer a relatively stable output to obtain the required capabilities for the military transformation by focusing on the known part in the beginning, and gradually upgrading the known part with each complete increment of the unknown parts.

In order to pursue evolutionary acquisition strategy, the spiral development was suggested as a preferred process in 2003⁴²³. This development process has five steps: defining requirement, designing, coding-fabricating-integrating, experiments and tests, and assessing operational utility⁴²⁴. The process is applied to the development of the known part in a defense program and to each increment of the unknown part as well. The spiral development process is an interactive process that is to continue until the final product satisfies the requirement of each part or increment⁴²⁵. So, there can be more than one spiral development process in the known part and each increment of the unknown part in a program. Multiple spiral processes in a program development offer more opportunities for participants in a program to communicate with each other and to discuss possible risks that are expected during a program⁴²⁶. This process provides more chances to discover flaws and risks, then to remedy them in a timely manner within a single spiral process.

2. Military Transformation and Industrial Base

It is an inevitable fact that the United States industrial bases were the essential foundation of the US military power and a driving force for the United States to win the Cold War⁴²⁷. Since 1941, during

⁴²² Kenneth Farkas and Paul Thurston, 2003; Gary J . Pagliano and Ronald O'Rourke, 2004.

⁴²³ The Under Secretary of Defense, 2002, Memorandum for *Evolutionary Acquisition and Spiral Development* (<http://www.secnv.navy.mil/rda/Policy/2002%20Policy%20Memoranda/041202acq.pdf>); Kenneth Farkas and Paul Thurston, 2003.

⁴²⁴ The Under Secretary of Defense, 2002; Kenneth Farkas and Paul Thurston, 2003; Gary J . Pagliano and Ronald O'Rourke, 2004.

⁴²⁵ The Under Secretary of Defense, 2002; Kenneth Farkas and Paul Thurston, 2003; Gary J . Pagliano and Ronald O'Rourke, 2004.

⁴²⁶ The Under Secretary of Defense, 2002; Kenneth Farkas and Paul Thurston, 2003; Gary J . Pagliano and Ronald O'Rourke, 2004

⁴²⁷ Kenneth Flamm, 2005, "Post-Cold War Policy and the U.S. Defense Industrial Base," in *The Bridge* (NATIONAL ACADEMY OF ENGINEERING); Joel S. Yudken, 2009, *MANUFACTURING INSECURITY AMERICA'S MANUFACTURING CRISIS AND THE EROSION OF THE U.S. DEFENSE INDUSTRIAL BASE* (Industrial Union Council, AFL-CIO); Barry D.

the Second World War, the production capacity of military arsenals was exceeded by the war-time demand of the US military⁴²⁸. During the Cold War, the Military-Industry-Congress complex was an indispensable option to maintaining military superiority to the Soviet Union and the WARSAW Pact⁴²⁹. This concrete complex of the Military-Industry-Congress was starting to be reconsidered, when economic conditions worsened in the 1980's. Furthermore, a critical reconstructing of defense industries was required when the Cold War ended in the late 1980's.

The gloomy national economic condition required the US Government to reduce the defense budget as well as the size of the US military. The Department of Defense had to make decisions regarding various programs that had started during the Cold War, while the Department still needed the industrial bases to develop necessary weapon systems and to supply military goods. Defense industries were put in a situation in which they should choose one of two options – to abandon the production line or to find other ways to survive the crisis after the Cold War. Congress could not simply choose an ideal option that fitted economic conditions, because defense industries were a significant issue to senators and representatives from the states or districts whose local economies were closely tied to companies within defense industries.

When this Military-Industry-Congress Complex was about to collapse, the Department of Defense requested the defense industries to pursue the consolidation between companies⁴³⁰. Furthermore, the Department of Defense and Congress worked together to lower the bars of restrictions on defense related technologies, which were banned to be released to the free market during the Cold War⁴³¹. Congress built legislative grounds to release the ban on dual-use technologies which were able to be used

Watts and Todd Harrison, 2011, "Executive Summary," in *SUSTAINING CRITICAL SECTORS OF THE U.S. DEFENSE INDUSTRIAL BASE* (Center for Strategic and Budgetary Assessments).

⁴²⁸ Barry D. Watts and Todd Harrison, 2011, "Executive Summary".

⁴²⁹ Barry D. Watts and Todd Harrison, 2011, "Introduction," pp. 1-4.

⁴³⁰ John Deutch, 2001, "CONSOLIDATION OF THE U.S. DEFENSE INDUSTRIAL BASE" in *Acquisition Review Quarterly*; Kenneth Flamm, 2005; Joel S. Yudken, 2009; Barry D. Watts and Todd Harrison, 2011.

⁴³¹ Robert C. McCormack, 1989, "Bolstering Defense Industrial Competitiveness Through International Cooperation," in *Defense* 89, pp. 10-13; John Deutch, 2001, pp. 143-144, Kenneth Flamm, 2005, pp. 7-8.

in civilian businesses⁴³². The Department of Defense offered practical guidelines to discern between critical military technologies and dual-use technologies.

In this situation, the Military Transformation brought significant benefits to defense industries which had a troubled time after the Cold War by offering two opportunities for innovation. The Military Transformation during the post-Cold War era was the visions and plans for the US military to pursue the Revolution in Military Affairs, exploiting advancements in information technology in the early 1990's⁴³³. The Military Transformation required defense industries to develop advanced technologies for the network centric warfare⁴³⁴ that the Department of Defense developed to pursue the Revolution in Military Affairs. The core part of the network-centric warfare was to develop the network that could connect the nodes to share the information⁴³⁵. Research on information technology and development of network systems⁴³⁶ were the innovative areas of defense industries.

⁴³² US Congress, 1993, "Sec. 204. Funding for Defense Conversion and Reinvestment Research and Development Programs" in *H.R. 2401- National Defense Authorization Act for Fiscal Year 1994*, the 103rd Congress

⁴³³ Transformation started with development of new way of war fighting (for example, Joint Vision 2010) and the technologies that could support the doctrines. After developing the doctrines and technologies, the military asked defense industries to develop and supply the required equipment and systems in order to transform the military into the organization suitable for the vision. If industries did not have the capabilities to produce equipment that the military needs, military transformation would not initiate. So, the military transformation was a symbiotic strategy to save industrial bases and transform the US military into a future force.

⁴³⁴ This concept was developed within the US military as a way to achieve military transformation. It is contrasted to the platform centric warfare which focuses on the ability of each individual platform such as submarines, destroyers, and aircraft carriers. A decentralized network of forces share information in order to engage targets more efficiently, precisely, and quickly from greater distances and from all directions. Network centric operations are expected to bring four key benefits such as increased speed of command, self-synchronization, advanced targeting and greater tactical stability. This concept has following features. First, the nodes perform as sensors with network to provide shooters and commanders with unmatched awareness of the battle space. Second, with precision guided munitions and shared information, it is possible to destroy targets with fewer shots. Third, this situation allows small U.S. forces to impose a disproportionate effect on adversaries. Fourth, fewer American assets are vulnerable to an enemy attack on particular platforms or areas with sensors, shooters, and their supporting infrastructure geographically dispersed within an overarching network. Fifth, smaller, lighter, faster, and less complex nodes are required to realize this doctrine.

⁴³⁵ The concept of the Network Centric Warfare consisted of the nodes and networks. In the Network Centric Warfare, nodes perform as sensors to collect information and platforms to strike opponents. At the same time, networks connect these nodes to share the information with each other.

⁴³⁶ It includes three levels of system integration such as weapon system integration, platform integration, and system of systems.

On the other hand, the Military Transformation also asked defense industries to develop advanced nodes and platforms that could perform in network systems. The Military Transformation innovated the nodes and platforms into two ways – disruptive innovation and sustaining innovation. Some nodes and platforms like Unmanned Aerial Vehicles were developed on the basis of new technologies and concepts to satisfy the requirements of network centric warfare, and they opened new fields of business⁴³⁷. These new fields of business required defense industries to construct new infrastructure for production and development, and this type of innovation – disruptive innovation⁴³⁸ – did not guarantee the privilege that traditional defense firms enjoyed.

The Military Transformation also asked defense industries to modify the pre-existing platforms rather than develop whole new weapons systems. This type of innovation – sustaining innovations⁴³⁹ – asked to change the nodes and platforms into proper forms for network centric warfare, even though it did not require the abandonment of previous versions of nodes and platforms. Traditional weapon systems such as armored vehicles, jet fighters, and ships⁴⁴⁰ were still required to perform as nodes and platforms. Differing from the previous warfare, the network centric warfare required the nodes and platforms to perform as a part of networks.

⁴³⁷ The Unmanned Aerial Vehicles have these values and roles: first, they are platforms for delivering precision strikes; they are nodes to transfer information from platforms to platforms; they are sensors to gain the battle field information.

⁴³⁸ Disruptive innovations are distinguished from the previous standards or pre-existed technologies. These new technologies establish a trajectory of rapid performance improvement that, building on experience gained in fringe or niche areas, overtakes the quality of the leading products of old standards; Peter J. Dombrowski, Eugene Gholz, Andrew L. Ross, 2002, “Selling Military Transformation: The Defense Industry and Innovation” in *Orbis summer 2002* (Elsevier Science); 2003, *Military Transformation and the Defense Industry after Next: The Defense Industrial Implication of Network-Centric Warfare* (Naval War College).

⁴³⁹ Sustaining innovations are defined by improvement in products’ quality based on the previous standards: they offer new, better ways to innovate what customer organizations have been doing using previous generations of technology; Peter J. Dombrowski, Eugene Gholz, Andrew L. Ross, 2002; 2003.

⁴⁴⁰ The network centric warfare required to transform traditional ships into the one that has the following features. First, the NCW required smaller, faster, lighter, and less complex platforms; second, in order to deploy many sensors and nodes around coastal areas, it is required to build large smaller and less capable ships with large numbers instead larger, more capable ships with smaller numbers (for example, Littoral Combat Ship); third, new ship designs would be modular so that these ships could be rapidly reconfigured for other missions even though they were optimized for missions in one environment.

The nodes in networks perform as a sensor to collect battle field intelligence and share the information through networks⁴⁴¹. The platforms in networks were required to synchronize their performances in the battle fields by sharing information and communicating with each other through networks in order to increase combat effectiveness⁴⁴². This requirement did not need the previous version of platforms which were expensive and vulnerable to asymmetrical threats because these platforms were equipped with all the devices and weapon systems in a unit. Rather, the network centric warfare required the deployment of more units which were less expensive but equipped with mission essential capabilities⁴⁴³. More units connected with each other through networks generate higher combat effectiveness than one unit with all the capabilities.

Consequently, the military transformation based on the network-centric warfare offered three areas of business to defense industries such as development of new platforms and nodes, modification of traditional platforms, and network systems to connect these nodes and platforms. These were valuable opportunities for defense industries to survive the serious crisis in the early 1990's, and for the United States government to maintain industrial bases for national defense.

3. JSF⁴⁴⁴ F-35: Cold War Legacy or Representative of Military Transformation?

A. Why does F-35 matter?

F-35 is the jet fighter that has been developed and eventually will be purchased by the US military. This airplane matters politically, because several issues regarding F-35 have been considered in the US Congress, specifically in the process of determining the annual budget for the US Federal

⁴⁴¹ Peter J. Dombrowski, Eugene Gholz, Andrew L. Ross , 2002; 2003; 2006, *Buying Military Transformation: Technological Innovation and the Defense Industry* (Columbia University Press: New York)

⁴⁴² Peter J. Dombrowski, Eugene Gholz, Andrew L. Ross , 2002; 2003; 2006.

⁴⁴³ Peter J. Dombrowski, Eugene Gholz, Andrew L. Ross , 2002; 2003; 2006.

⁴⁴⁴ This is the abbreviation of Joint Strike Fighter Program.

government⁴⁴⁵. In regard with the budget size, the F-35 JSF program has taken a large portion of the US defense budget. In 2011, \$10.7 billion was allocated to the F-35 JSF program, which was the largest amount in the program budget⁴⁴⁶.

Furthermore, one amendment related to the JSF program became a noticeable issue in the annual appropriation process in 2011. The amendment was about cancellation of the second engine development for the F-35, and the amount of budget for the F-35 in the amendment is 450 million dollars⁴⁴⁷.

Considering the amount in the amendment and in the budget for the F-35 in FY 2011 (\$ 450 million and \$11 billion, respectively), the amendment as well as the F-35 program itself might have been a serious concern for members of Congress in regard to budget amount. In reality, the story of the amendment regarding F-35 was covered by prominent news media including the *New York Times*⁴⁴⁸. The Department of Defense released its own position⁴⁴⁹, and President Obama expressed his opinion⁴⁵⁰. So what made the F-35 program receive such political attention at that time?

First, the F-35 is a unique and special military aircraft as a weapon system and cannot but get a significant level of attention from various interested parties including members of Congress. The F-35 was developed to replace the jet fighters not only for the Air Force but also for the Navy and Marine Corps. The F-35 is much more capable and advanced than the jetfighters being replaced by the F-35 in regards to warfighting, avionics, and operating system software. The large amount of production and

⁴⁴⁵ H.Admt 16 to H.R. 1 of the 112th Congress Roll Call no. 46

⁴⁴⁶ Department of Defense, 2010, "Chapter 4. Rebalancing Forces," in *Fiscal Year 2011 Budget Request: Overview*, p. 4-3 (http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2011/FY2011_Budget_Request_Overview_Book.pdf)

⁴⁴⁷ H.Admt 16 to H.R. 1 of the 112th Congress Roll Call no. 46

⁴⁴⁸ Christopher Drew, "House Votes to End Alternate Jet Engine Program" in *New York Times* (Published: February 16 2011)

⁴⁴⁹ CHRISTOPHER DREW, 2011, "House Votes to End Alternate Jet Engine Program" in *New York Times* (February 16, 2011; <http://www.nytimes.com/2011/02/17/us/politics/17-f-35-engine.html>)

⁴⁵⁰ CHRISTOPHER DREW, 2011.

advanced technology enticed defense industries; three military services focused on the advance capabilities of the F-35; the large size of the budget made Congress concerned about the JSF program.

Second, the F-35 was a critical issue in Congress, considering the fact that an amendment regarding F-35 was drafted in Congress and passed through a roll-call vote during the Congressional budget process, specifically appropriation process⁴⁵¹. The amendment was submitted to the annual appropriation bill of 2012 and it contained an adjustment of budget for the F-35⁴⁵². Since a specific amendment was drafted for a certain weapon system and the amendment was processed by roll-call votes, it means that the weapon system was spotlighted during the Congressional budget process and the decision regarding the weapon system reflected the decision of each member of Congress.

Third, the severe national financial situation in 2011 made each participant in defense policy more sensitive to any possible budget cut from defense programs which had been already qualified to continue, and members of Congress got interested in F-35 when the jet fighter became an issue in Congress. The primary issue of the F-35 in the 46th amendment to *the defense appropriations bill FY 2012* was whether the alternative engine was necessary for the F-35 program, which was designed as a single engine jet fighter.

Fourth, members of Congress were interested in the F-35, because the F-35 has significant functions in the national military strategy. The three military services – such as the Air Force, the Navy, and the Marine Corps – planned to purchase more than 2,590 F-35s and these F-35s would be deployed to the missions such as air-to-air battle, close air support, and various strike missions⁴⁵³. Specifically, the advanced air-to-air combat capability was the essential part of national defense to ensure the air superiority that guarantees the freedom of action in other military operations, including long range

⁴⁵¹ H.Admt 16 to H.R. 1 of the 112th Congress Roll Call no. 46

⁴⁵² H.Admt 16 to H.R. 1 of the 112th Congress Roll Call no. 46

⁴⁵³ <https://www.f35.com/about/history> (as of Feb. 28. 2015);
<http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20)

strategic bombing, ground operations, and naval operations. In other words, it means that F-35 was developed to perform significant strategic or specific tactical roles in the concept of US military strategy or national defense policy.

These four arguments is merged into two main ideas: first, F-35 is important in the aspect of military affairs due to its unique features as a weapon system and its role in the military strategy; second, F-35 mattered in the political aspect – specifically, Congress – because it was under consideration in the Congressional budgetary process because of the external financial condition.

B. F-35 as a weapon system

The F-35 has the following features as a war-fighting aircraft. First, it is the fifth generation jet⁴⁵⁴ fighter which is designed to replace the currently used aircrafts such as F-16 (Air Force), F-18 (Navy), AV-8 (Marine Corps). The missions executed by the previous generations' jet fighters will be on the mission list of F-35.

Second, F-35 is a stealth jet fighter which means that the jet fighter can avoid the radar tracking from adversaries. The stealth technology was also implemented in other legendary jet fighters, such as F-22 and in strategic bombers such as B-2 and F-117. Differing from these bombers which lack the air-to-air combat capability, F-35 matches other jet fighters in regards to close air-to-air combat capability.

Third, F-35 has a situational awareness system⁴⁵⁵ that offers information superiority to other jet fighters. This system enables F-35 to function with more clear vision of the battle situation in which the jet fighter conducts its missions. In addition to situational awareness⁴⁵⁶, F-35 is designed to share data and

⁴⁵⁴ Adam J. Herbert, 2008, "Fighter Generation," *Air Force Magazine*

⁴⁵⁵ <https://www.f35.com/about/history> (as of Feb. 28. 2015);
<http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20)

⁴⁵⁶ <https://www.f35.com/about/history> (as of Feb. 28. 2015);
<http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20)

information that each unit gathers with other units. It means that F-35 was developed to perform as a part of a network that connects available assets in a combat situation.

Fourth, F-35 is *Joint Strike Fighter*⁴⁵⁷ which means that F-35 will be purchased and used by more than one military service including Air Force, Navy, and Marine Corps. This is against the tradition of weapon acquisition in which each service developed its own weapon system. It is still debatable that different requirements from different military services can justify each military service's rationale to pursue development of a jet fighter independently from other military services. At least there is a sharing point: they all want to have the best jet fighter to maintain air superiority while doing military operations.

C. A-X/A/FX and MRF: the Origins of the F-35

Developing a new jet fighter was not new at all. The beginning of F-35 was not different from other legacy jet fighters. At the beginning, the primary purpose was the development of a jet fighter that could replace the legacy jet fighters such as the F-16 for the US Air Force, the F-18 and A-6 for the US Navy, and the AV-8 for the US Marine Corps. These legacy jet fighters are tactical jet fighters which are responsible for maintaining air superiority and applying airpower in maritime warfare and land warfare⁴⁵⁸.

Air superiority has been one for the top priorities in the US Military since air power became a significant factor in military affairs⁴⁵⁹. To be superior in the air, to have air superiority, means having sufficient control of the air to make air attacks on the enemy without serious opposition and, on the other hand, to be free from the danger of serious enemy air incursions⁴⁶⁰. Furthermore, air superiority is the enabling factor that guarantees success of other components of airpower.⁴⁶¹ On a strategic level, a

⁴⁵⁷ <https://www.f35.com/about/history> (as of Feb. 28. 2015);

<http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20)

⁴⁵⁸ John A. Warden III, 1988, "Air Superiority," in *The Air Campaign: Planning for Combat* (National Defense University Press Publication)(<http://www.au.af.mil/au/awc/awcgate/warden/wrdchp01.htm>); US Navy, 2010, "Naval Aviation's Role: Supporting the Six Core Capabilities," in *Naval Aviation Vision*.

⁴⁵⁹ US Air Force, 1999, Air Force Basic Doctrine, pp. 29-30

⁴⁶⁰ John A. Warden III, 1988.

⁴⁶¹ John A. Warden III, 1988; US Air Force, 1999.

strategic air force cannot penetrate into enemy territory without having air superiority. On a tactical and operational level, an air force cannot guarantee sufficient and stable support to naval forces or ground forces in the absence of air superiority.

Once air superiority is attained and maintained, airpower can be applied in ground operations and naval operations. For ground operations, airpower can destroy, disrupt, divert, or delay the enemy's surface military potential⁴⁶². Air power also provides direct support to help friendly surface forces in contact with enemy forces carry out their assigned tasks⁴⁶³. For naval operations, air power is extended into maritime environments and assumes various tasks encompassing sea surveillance, anti-ship warfare, and protection of sea line of communication⁴⁶⁴.

All the legacy jet fighters were developed to perform either one or both of these two missions to maintain air superiority and to support other operations. A-6 and AV-8 have been deployed to primarily perform Close Air Support mission for Navy or Marine Corps⁴⁶⁵. F-16 and F-18 have been deployed to maintain air superiority but they also have equipped sufficient capabilities to perform other supporting missions like CAS and air interdictions⁴⁶⁶. However, differences in operational environments led the US Air Force and the Navy to develop separate jet fighters for similar roles and functions. The Marine Corps' operational environment required the capability of vertical take-off and landing⁴⁶⁷, and led the Marine Corps to acquire AV-8. The carrier-based operational environment required Navy jet fighters to equip specific capabilities or devices such as twin engines, landing gears with stable positioning, and hook

⁴⁶² US Air Force, 1999, pp.48-50. This is about air interdiction.

⁴⁶³ US Air Force, 1999, pp.48-50. This is about Close Air Support.

⁴⁶⁴ US Air Force, 1999, pp.50-51.

⁴⁶⁵ Naval Air Systems Command, Aircraft and weapons, AV-8B Harrier
(<http://www.navair.navy.mil/index.cfm?fuseaction=home.FixedWing>)

⁴⁶⁶ Naval Air Systems Command, Aircraft and weapons, F/A-18 Hornet/ Super Hornet,
(<http://www.navair.navy.mil/index.cfm?fuseaction=home.FixedWing>); U.S. Air Force, F-16 Fighting Falcon,
(<http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104505/f-16-fighting-falcon.aspx>)

⁴⁶⁷ ⁴⁶⁷ Naval Air Systems Command, Aircraft and weapons, AV-8B Harrier
(<http://www.navair.navy.mil/index.cfm?fuseaction=home.FixedWing>)

arrest gear⁴⁶⁸. These capabilities are not necessary to Air Force jet fighters but are essential capabilities to operate in maritime operations based on aircraft carriers. A-6 has stable and wide landing gear and twin engines, and F-18 has all three capabilities. On the other hand, operational environments ask the US Air Force to focus on air-to-air combat capabilities such as air maneuverability⁴⁶⁹, rather than to be concerned about aircraft carriers. This operational environment led the U.S. Air Force to develop F-16.

When all of these legacy jet fighters were required to be replaced, each military service proposed to acquire their own next jet fighters which were fit to the services' operational environments. The U.S. Air Force proposed the Multi-Role Fighters (MRF)⁴⁷⁰ program and the Navy initiated the Advanced Attacker/ Advanced Attacker/Fighter (A-X/A/FX)⁴⁷¹ program. Along with them, the Defense Advanced Research Project Agency (DARPA) prepared to develop a next generation concept of vertical take-off and landing aircraft technologies (Advanced Short Take-Off/ Vertical Landing Program: ASTOVL)⁴⁷².

D. JSAT and JSF: Joint-ness and Industrial Bases

When the Cold War ended, economy rather than security started to drive defense industries and weapon development programs. The services began to initiate weapon development programs jointly. When the Navy proposed A-X/ A/F-X program to replace A-6, the Air Force participated in the development program in order to replace F-111⁴⁷³. Moreover, the economic environment in the early

⁴⁶⁸ Navy has preferred twin engine fighter to single engine fighter because of survivability. In order to take off and land on aircraft carrier, more stable and wider landing gears requires for navy jet fighters. Arresting hook provides safe landing on relatively short runway on aircraft carrier.

⁴⁶⁹ U.S. Air Force, F-16 Fighting Falcon,

(<http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104505/f-16-fighting-falcon.aspx>)

⁴⁷⁰ Multi-Role Fighter (MRF) 1990-1993 in *Global Security*

(<http://www.globalsecurity.org/military/systems/aircraft/mrf.htm>)

⁴⁷¹ Advanced-Attack / Advanced/Fighter-Attack (A-X / A/F-X) 1992-1993 in *Global Security*

(<http://www.globalsecurity.org/military/systems/aircraft/mrf.htm>)

⁴⁷² Advanced Short Take-Off/Vertical Landing (ASTOVL) 1983-1994 in *Global Security*

(<http://www.globalsecurity.org/military/systems/aircraft/mrf.htm>)

⁴⁷³ Advanced-Attack / Advanced/Fighter-Attack (A-X / A/F-X) 1992-1993 in *Global Security*

1990's did not allow the services to proceed to develop all these jet fighter programs. Furthermore, the security environment did not offer specific reasons to develop all these jet fighters or to replace outdated weapon systems. However, the US government had to maintain the industrial bases that produced military equipment during the Cold War era, because the United States still needed to maintain the military forces which could engage globally and these industrial bases were also critical economic bases to the US national economy⁴⁷⁴.

The Department of Defense recommended defense industries consolidating companies and merging into several representative companies within similar industry fields⁴⁷⁵. Sixteen aircraft manufacturing companies were merged into five companies at the end of the 1990's⁴⁷⁶. Furthermore, the Department of Defense canceled similar defense programs and merged them into fewer representative programs⁴⁷⁷. In order to save the merged programs, the Department of Defense put the programs into the Research and Development phase and encouraged the foreign governments and defense industries to participate in these programs. MRF program, ASTOVL program and A-X/A/F-X program were canceled and merged into Joint Advanced Strike Technologies (JAST) Program in 1993⁴⁷⁸. Later, the Common Affordable Lightweight Fighter Program (ALWF), which was initiated by DARPA and the Navy to develop a VTOL jet fighter for the Marine Corps, was merged into JAST program in 1994⁴⁷⁹. JAST program was developed into the Joint Strike Fighter program in 1997. After the X-35 – which is a prototype of F-35 – was chosen as the winner of competition for the JSF program, eight countries decided

⁴⁷⁴ John Deutch, 2001, "CONSOLIDATION OF THE U.S. DEFENSE INDUSTRIAL BASE" in *Acquisition Review Quarterly*; Kenneth Flamm, 2005; Joel S. Yudken, 2009; Barry D. Watts and Todd Harrison, 2011

⁴⁷⁵ John Deutch, 2001; Kenneth Flamm, 2005; Joel S. Yudken, 2009; Barry D. Watts and Todd Harrison, 2011.

⁴⁷⁶ Kenneth Flamm, 2005.

⁴⁷⁷ Les Aspin, 1993, *Report on the Bottom-Up Review* (Department of Defense)

⁴⁷⁸ Under Secretary of Defense, 1994, *CHARTER for the JOINT ADVANCED STRIKE TECHNOLOGY (JAST) PROGRAM* (Department of Defense), pp.1-4

⁴⁷⁹ Under Secretary of Defense, 1994

to participate in the development of F-35 JSF program which was entitled as a ‘fifth generation jet fighter’⁴⁸⁰.

E. The Fifth Generation Jet Fighter: where does it come from?

Looking back the origin of the *concept* of the fifth generation jet fighter, this was not a concept that had a commonly shared base within the communities of the Air Force and related industries. There were a couple of systems that offered different ways to classify the generations of jet fighters. In 1990, Dr. Hallion offers the system of the six generations of jet fighters⁴⁸¹. This system is based primarily on the engines that equipped the jet fighters. Each generation of jet fighter has a turbo engine equivalent to a generation of jet fighter. The system also matches the series of jet fighter acquisition plans of the US Air Force. Basically, The US Air Force attempted to develop the *next generation* jet fighter when new threats appeared or a new jet fighter was developed by the opponent – which means the Soviet Union⁴⁸². According to this system, F-35 and F-22 will be the seventh generation jet fighters, if they are considered as the next generation fighters.

The other system has the four generations instead of the six generations of Dr. Hallion’s system⁴⁸³. This system is based on the comprehensive capabilities of jet fighters⁴⁸⁴. Moreover, this system focuses on the capabilities that are easily understood to those who do not have professional and technical knowledge about the jet fighter. This is the reason that the system has been more commonly mentioned as

⁴⁸⁰ <https://www.f35.com/about/history> (as of Feb. 28. 2015);

<http://www.lockheedmartin.com/us/products/f35.html> (Lockheed Martin Homepage; as of Feb. 20)

⁴⁸¹ Richard P. Hallion, 1990, “A Troubling Past: Air Force Fighter Acquisition since 1945,” *Air Power Journal* (<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj90/win90/1win90.htm>)

⁴⁸² James S. Browne, 1997, *Air Superiority Fighter Characteristics*, US Army Command and General Staff College, pp. 88-90; Michael J Costigan, 1997, *The F-22 The Right Fighter for the Twenty-first Century?*, Air War College, Maxwell Paper No. 9. ; Devin L Kate, 2003, *The Air Superiority Fighter and Defense Transformation: Why DOD Requirements Demand the F/A-22 Raptor*, Air War College; Maxwell Paper No. 30.

⁴⁸³ Richard P. Hallion, 1990.

⁴⁸⁴ Richard P. Hallion, 1990.

the reference to generations of jet fighters. The concept of the fifth generation fits to this system. In conclusion, F-22 and F-35 can be the seventh generation in the system of Dr. Hallion, while they are considered as fifth generation jet fighters in the other system.

Even though many sources referred to F-22 and F-35 as the examples of the fifth generation jet fighter, there was no concept like the fifth generation of jet fighter when these jet fighters were determined to be developed. As I searched the related documents released around the time period in which both jet fighters were developed, F-22 was mentioned only as the “next” generation jet fighter not the “fifth generation” fighter⁴⁸⁵. Moreover, the objective of F-22 development was less fancy than the current specifications of the fifth generation jet fighter. F-22 was conceptualized and developed under the program of the Advanced Tactical Fighter (ATF) in the late 1980’s⁴⁸⁶. The primary purpose of the ATF program was to replace F-15 in order to maintain air superiority, since the Soviet Union successfully developed jet fighters such as MIG-29 and SU-35 that could match F-15 in air-to-air combat capabilities⁴⁸⁷. Literally, the first jet fighter considered as the fifth generation jet fighter was the byproduct of competition for air superiority during the Cold War between the United States and the Soviet Union in the late 1980’s.

After the Cold War ended, there was no change in the necessity for a next generation fighter that could help the US Air Force maintain air superiority. F-35 is the one of the programs to secure the air superiority of the United States in the post-Cold War era. F-35 originated from the programs of the Joint Advance Strike Technologies (JAST). From the beginning, F-35 was quite different from F-22 in several aspects. While F-22 had a clear source of threat to oppose, F-35 did not have a clear objective to fight against except the broader goal of maintaining of air superiority⁴⁸⁸. In this situation, the term of “next”

⁴⁸⁵ James S. Browne, 1997; Michael J Costigan, 1997; Devin L Kate, 2003.

⁴⁸⁶ James S. Browne, 1997; Michael J Costigan, 1997; Devin L Kate, 2003.

⁴⁸⁷ James S. Browne, 1997; Michael J Costigan, 1997; Devin L Kate, 2003.

⁴⁸⁸ Under Secretary of Defense, 1994, *CHARTER for the JOINT ADVANCED STRIKE TECHNOLOGY (JAST) PROGRAM* (Department of Defense), pp.1-4; *Annual Report to the President and the Congress* 1994; 1995; 1996; 1997.

generation does not mean just some descriptions of generational changes that the new jet fighter would achieve, but a mirror image that the new jet fighter had to struggle with. The JAST program is an example of a capability based approach in the transformation after the Cold War because the development of the JAST program was pursued to achieve capabilities under uncertain threats. Moreover, when JAST was developed as a concept of jet fighter technologies, the economic aspect was considered as an important part. To reduce the cost of development, the concept of joint-ness and international cooperation significantly affected the whole development process⁴⁸⁹. This is also different from the case of F-22 in which the economic factor was not the primary concern.

Considering the development process of these jet fighters, I argue that F-22 and F-35 did not have a clear connection with the concept of the fifth generation jet fighter when they were under consideration of development. Rather, the concept of fifth generation was introduced later when these jet fighters became its first operational members. Now the question is who did this and how this happened.

Several sources mentioned that the concept of the fifth generation jet fighter was coined during the mid-1990's by Russia, who attempted to develop jet fighters that could match the F-22, which was described as an example of the fifth generation of jet fighters⁴⁹⁰. Giovanni de Briganti further argues that this concept, released to the media by the Russian aviation companies who had financial problems after the Cold War in the late 1990's, eventually became popular⁴⁹¹. Lockheed Martin also started to describe F-22 and F-35 as the fifth generation jet fighter around the year of 2004 almost 10 years after this

⁴⁸⁹ The Department of Defense, 1993, *the Report of Bottom-Up Review*; William S. Cohen, 1997, *Annual Report to the President and the Congress*, p. 175; Donald Stevenson and etc., 1997, *The Next-generation attack fighter: affordability and mission needs*, Rand; Mark A. Lorell and Hugh P. Levaux, 1998, *Cutting Edge: A half century of U.S. fighter aircraft R&D*, Rand.

⁴⁹⁰ Giovanni de Briganti, 2012, "F-35 Reality Check Ten Years On – Part I: 'fifth generation' and other myth" in *Defense Aerospace.com* (http://www.defense-aerospace.com/article-view/feature/135080/f_35-reality-check-10-years-on); ALEXANDER VELOVICH, 2000, "MiG 1.44 undergoes high-speed runs as MAPO prepares for maiden flight" in *INTERNATIONAL 2000*; Unknown, 1999, "Russian 1.44 to fly soon despite money shortage, says MAPO" in *FLIGHT INTERNATIONAL 20 - 26 January 1999*; 1996, "Mikoyan's heavyweight fighters languish in development and face uncertainty" in *FLIGHT INTERNATIONAL 24 - 30 July 1996*; DOUGUS BARRIE, 1995, "Mikoyan pushes 1.42 for Mosaero debut" in *FLIGHT INTERNATIONAL 21 - 27 June 1995*.

⁴⁹¹ Giovanni de Briganti, 2012.

company won the contract for the development of the F-35⁴⁹². Congress also began to mention the term “fifth generation jet fighter” in the bills related to jet fighter procurement in 2004⁴⁹³. In conclusion, I argue that the concept or the term of the fifth generation did not originate from the intentions of the US Air Force, who developed the concept of the weapon procurement programs, but it was brought by the potential opponent – the Russians – as a way of defining the objective of competition for military superiority against the US. I further argue that Lockheed Martin intended to use the term of the fifth generation as a catchphrase and sold the concept as well as its products – F-22 and F-35 – to the US government including Congress.

F. Military Transformation, American Militarism and JSF F-35 Program

From the perspective of weapon acquisition process, it is controversial to argue that the JSF F-35 program is a representative weapon development program of the Military Transformation. First, the JSF program was not a product of the Joint Capability Integration and Development System. Even though this program was named as a ‘joint’ program, it was a merger proposal of several jet fighter development programs initiated by each service. Considering various flaws discovered in the design phase, the specification and requirements had not matured sufficiently before the program entered into the development phase. Moreover, the Department of Defense determined to develop the F-35 even before the JCIDS was in effect.

However, the F-35 has the features of the Evolutional Acquisition and Spiral Developments. The program was divided into the known part and the unknown part. The known parts were the engine

⁴⁹² The Lockheed Martin Corporation, 2004, *Lockheed Martin Corporation Annual Report 2004*.

⁴⁹³ The Department of Defense, 2004, *FY 2004 Annual Report to the President and the Congress*; Congressional Record, *CONFERENCE REPORT ON H.R. 1588, NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2004 -- (House of Representatives - November 07, 2003); NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2007 -- (Senate - June 22, 2006) [Page: S6324]*. Until the 108th Congress, the next generation jet fighter was used to describe F-35. It was the 109th Congress when the fifth generation jet fighter appeared in Congressional record.

development, the stealth technologies, and radar systems. These technologies and devices were already developed and implemented for several predecessors. Even though maturations and modifications were required, these technologies were expected to be completed within the appropriate time frame. The unknown part included the situation awareness system, the data sharing system, and the operating system including the helmet mounted display. Specifically, the F-35 applied a block development approach for the operating software program, which includes five blocks from the version of training configuration to the version of full warfighting capability⁴⁹⁴.

On the other hand, the program shows a clear connection with the industrial bases. This connection led the JSF F-35 program to American Militarism which can be featured as ‘overly ambitious,’ ‘not efficient,’ and ‘not reasonable.’ There are five evidences which show that American Militarism has influenced the development of the Joint Strike Fighter.

First, the purchasers – Congress and the Department of Defense – have not exercised the proper authority over the merchandiser – Lockheed Martin and its associates –, even though there have been significant flaws in the program⁴⁹⁵. It means that the one who is going to buy could not make sound decisions on a reasonable basis. The department of defense and Congress were reluctant to take action on the program when several significant flaws occurred. The Government Accounting Office had warned about possible program failure and cost overrun, and recommended restructuring the JSF program almost every year since 2001⁴⁹⁶. During the development period, the Department of Defense had not seriously considered these warnings and recommendations, and reluctantly responded to them with minor changes

⁴⁹⁴ From the program’s outset, the software team has focused on developing six key software releases known as Blocks – F-35 homepage (<https://www.f35.com/about/life-cycle/software>)

⁴⁹⁵ W.J. Hennigan and Ralph Vartabedian, 2013, *LA times* “F-35 fighter jet struggles to take off” (June 12, 2013; <http://www.latimes.com/business/la-fi-0612-fighter-jet-testing-20130612-dto-htmlstory.html>)

⁴⁹⁶ The reports are GAO-02-39 (2001), GAO-05-271(2005), GAO-06-356(2006), GAO-07-360(2007), GAO-08-388(2008), GAO-09-303(2009), GAO-10-382(2010), GAO-11-325(2011), GAO-12-437(2012), GAO-03-309(2012), GAO-14-322(2013).

or non-action, continuing to show confidence about the original development strategy and plan⁴⁹⁷. Even though the Department of Defense re-planned the JSF program three times during this period, all these changes were initiated only after the program faced incurable problems⁴⁹⁸. The Department of Defense's inaction caused the program to miss out on opportunities for timely remedies in the JSF program. Furthermore, considering that all these Government Accounting Office's reports were drafted to report to Congressional committees⁴⁹⁹, Congress had partial responsibility for the cost overrun and delivery delay of the JSF program.

Serious technical flaws were found after the program entered the system development and demonstration phase⁵⁰⁰. These flaws led the program to massive changes in its airframe design. Massive changes in the design caused a delay in release of a prototype and test flights, and eventually a serious delay in production and delivery of the F-35s to the services⁵⁰¹. All these factors generated a large amount of cost overrun for the development of the joint strike fighter. Even though the department of defense proposed an entire restructuring of the JSF program in 2010⁵⁰², there has been no clear evidence that the department of defense and Congress made proper decisions to remedy the flaws of the program decisively and properly when those flaws occurred. The restructuring was done only after the program confronted serious disarray. Consequently, it means that these purchasers did not engage the program responsibly.

⁴⁹⁷ GAO, 2014, "Appendix I: Prior GAO Reports and DOD Responses" in *F-35 JOINT STRIKE FIGHTER: Problems Completing Software Testing May Hinder Delivery of Expected Warfighting Capabilities*, pp. 27-28.

⁴⁹⁸ First, a massive redesign of the airframe was required after one and a half years had passed since the Department of Defense chose the X-35 as the winner of the Joint Strike Fighter program. The primary reason was the lack of weapon containing space. It happened in the F-35 variant B (the Navy Model), it impacted all the other variants' design because all three variants of the F-35 shared the airframe. It means that the Department of Defense decided to start the program even before a match between the customer's requirements and the resources and technologies for those requirements.

⁴⁹⁹ All the reports included in the footnote 511 have the title of "Report to Congressional Committees, United States Government Accountability Office."

⁵⁰⁰ GAO, 2005, *TACTICAL AIRCRAFT: Opportunity to Reduce Risks in the Joint Strike Fighter Program with Different Acquisition Strategy*, pp.5-6

⁵⁰¹ GAO, 2005, p.9, and p. 11.

⁵⁰² Jeremiah Gertler, 2014, *CRS Report: F-35 Joint Strike Fighter (JSF) Program*, pp. 28-30; GAO, 2010, *JOINT STRIKE FIGHTER: Additional Costs and Delays Risk Not Meeting Warfighter Requirements on Time*, pp 22-24.

Second, the program did not satisfy the requirements of the final consumers - the Air Force, the Navy and the Marine Corps. Within the Air Force, there have been continuous objections to the development of the F-35⁵⁰³. In the warfighting aspect, pilots requested buying more F-22s rather than developing the F-35, arguing that F-22 guarantees better performance in air-to-air battle situations⁵⁰⁴. In addition to that, the Navy has kept insisting that F-18 E/F would be a better choice than the JSF in regard to survivability and timely replacement of the retiring jet fighters⁵⁰⁵. Specifically, the Navy was skeptical of the single engine jet fighter because it reduces the survivability of pilots when jetfighters operate with aircraft carriers. Furthermore, when the department of defense released the plan to develop the sixth generation jet fighter, the Navy announced that the sixth generation jet fighter would be replaced with the F-18 E/F, not the fifth generation jet fighter⁵⁰⁶. It is another evidence that the Navy has not recognized the F-35 as a proper replacement for F-18. Consequently, the services are not satisfied with the F-35 as their fifth generation jet fighter or a proper replacement of the retiring jet fighter.

Third, saving the industrial base and keeping it competitive in the international markets has been a critical interest of the U.S. Government, and it was the environment in which the JSF program began⁵⁰⁷. Even though the defense industrial base thrived during the Cold War era, the defense industry faced a series of challenges even before the Cold War ended. The primary reason was that the US industrial bases had been losing competitiveness in the global market in the 1980's. It happened in almost every industry, including electronics, automobiles, air planes, and even finances. It does not mean that the US industrial bases were totally broken up but that the US was losing the world power status with regard to industrial capabilities in the 1980's. Considering that defense budget was one of the sources to keep the industrial bases vital, this situation was more aggravated during the post-Cold War era due to reduced defense

⁵⁰³ James S. Browne, 1997; Michael J Costigan, 1997; Devin L Kate, 2003.

⁵⁰⁴ James S. Browne, 1997; Michael J Costigan, 1997; Devin L Kate, 2003.

⁵⁰⁵ Sydney J. Freedberg Jr. , 2013, *Forbes Champions More Super Hornets; F-18 Vs. F-35, Round Two* (December 05, 2013; <http://breakingdefense.com/2013/12/forbes-champions-buying-super-hornets-f-18-vs-f-35-round-two/>)

⁵⁰⁶ Paul McLeary, 2015, *New Budget Will Feature 6th Gen Fighter* (Jan 28, 2015; [Http://www.defensenews.com/story/defense/air-space/strike/2015/01/28/sixth-generation-fighter-2016-budget/22477329/](http://www.defensenews.com/story/defense/air-space/strike/2015/01/28/sixth-generation-fighter-2016-budget/22477329/))

⁵⁰⁷ The Department of Defense, 1993, *the Report of Bottom-Up Review*.

budget⁵⁰⁸. In this situation, it was crucial to save the industrial base for manufacturing advanced weapon systems and keep them competitive both in the market and in the war fighting capability, in order to maintain technological superiority. To protect manufacturing capacity, the US government considered recommending consolidation within industries and partnership with foreign business partners⁵⁰⁹. This option required the US government – both the executive branch and the legislative branch – to decide to release ‘dual - use technology’ to the private sector, which had been previously prohibited to share with non-defense related companies or foreign companies. To stay competitive in the defense industries, robust research and development programs for new technologies were considered⁵¹⁰. Even when the Department of Defense determined not to produce weapon systems, the department attempted to save the programs by putting the programs in the research and development section for technological maturation.

The JSF program is one program which contributed to saving the US industrial bases. When the Department of Defense encountered the situation of canceling the programs that sought new tactical jet fighters for the Air Force and the Navy in the early 1990’s, the department put these programs in a research and development program to seek technologies for the next generation jet fighter, which was titled as “Joint Advanced Strike Technologies,” instead of canceling the programs⁵¹¹. The JAST program was later turned into the Joint Strike Fighter F-35 program. In addition to that, foreign countries were encouraged to participate in the development of the F-35. Foreign investment in the development of the F-35 covers almost 20 percent of total development cost (\$4.375 billion / \$25 billion)⁵¹². Moreover, there are more potential buyers who are willing to purchase F-35s, including development partners such as the United Kingdom, Italy, Netherland, Turkey, Canada, Australia, Norway, and Denmark. Foreign

⁵⁰⁸ Kenneth Flamm, 2005, “Post-Cold War Policy and the U.S. Defense Industrial Base”, *The Bridge*, Vol. 35, No. 1, Spring 2005 (the National Academy of Engineering: Washington, DC) pp.9-11

⁵⁰⁹ Donald J. Atwood , 1990, “Industrial Base: Vital to Defense” in *Defense 90* (January/February, 1990), pp. 12-16 – remarks presented before the National Forum Foundation, Washington DC, November 6, 1989.; Barry D. Watts, 2008, “Strengthening the industrial base,” *The US Defense Industrial Base: Past, Present and Future* (CSBA)

⁵¹⁰ Donald J. Atwood, 1990; Barry D. Watts, 2008.

⁵¹¹ The Department of Defense, 1993, *the Report of the Bottom Up Review*; US Congress, 1995, *the National Defense Appropriation Act for FY 1996*, pp105-106.

⁵¹² Gertler, 2014, pp. 22-25.

investment and potential buyers in the JSF program are sources to save the industrial bases of the United States⁵¹³.

Fourth, the title “the fifth generation” did not come from any Services of the US military. The title was the catch-phrase of Lockheed Martin to sell F-35 to customers including the US military and other foreign partners. What the services used to describe a new jet fighter had been ‘a next generation’ jet fighter⁵¹⁴. The US military had not numbered the generation of the jet fighter program before the development of F-35. What the Services did was to develop a next generation jet fighter to defeat enemies’ current jet fighter. Originally, the title came from Russia, who tried to sell its new jet fighter in the late 1990’s⁵¹⁵. The Russian Weapon Corporation started to use the title of “fifth generation” jetfighter and the term was widely accepted throughout the international jet fighter market⁵¹⁶. The Lockheed Martin Corporation used this term as a catchphrase for the new jet fighter which eventually would replace the legacy jet fighters such as F-16, F-18, A-6, and AV-8⁵¹⁷. Now, the Department of Defense, Congress and military services are using the term of the fifth generation jet fighter to describe a family of advanced jet fighters⁵¹⁸. It means that the US government bought the catch phrase of the fifth generation jet fighter and gave it the meaning of advanced jet fighter. Furthermore, when the Department of Defense recently

⁵¹³ Moreover, it is necessary to shed light on the fact that there was already a fifth generation jetfighter – F-22 Raptor – before the JSF program was initiated. If what the Department of Defense really wanted to have an advanced jet fighter, the F-22 would have been the choice rather than developing a new jetfighter with less capabilities. It means that the primary reason of the JSF program was not military effectiveness but economic benefits which could be brought by new development program. Even though Economic side was a quite convincing reason to close the F-22 production line and to develop a cheaper and more exportable ‘fifth generation’ mode, the serious development delay and unexpected cost overrun of the JSF program put the economic side into shade.

⁵¹⁴ Michael D. Williams, 1999, *Acquisition for the 21st Century: The F-22 Development Program*, (NATIONAL DEFENSE UNIVERSITY PRESS: Washington, D.C.), p. 7.

⁵¹⁵ ALEXANDER VELOVICH, 2000; Unknown, 1999; DOUGUS BARRIE, 1995; 1996;

⁵¹⁶ The fifth generation fighter was widely used in journals in aerospace industries.

⁵¹⁷ The Lockheed Martin Corporation, 2004, *Lockheed Martin Corporation Annual Report 2004*. The title of the 5th Generation fighter was used in this report at the first time. Before the year of 2004, the title had not been on the annual report of the corporation even when the report covered the F-35 JSF program.

⁵¹⁸ The Department of Defense, 2004, *FY 2004 Annual Report to the President and the Congress*. The title of the fifth generation aircraft was used in the report. Before the year of 2004, the term “next generation” was used in the annual DOD reports.

released a new jet fighter development program, the Department called it “the sixth generation” jet fighter instead a next generation jet fighter.

Fifth, the decisions regarding the development of the F-35 were made without a solid technological basis. Specifically, it was too premature for the JSF program to enter the system development and demonstration (SDD) phase in 2001⁵¹⁹. The decision to enter the SDD phase has been criticized as “signing a contract before a test flight⁵²⁰” and “against the tradition of business in defense industry⁵²¹.” This premature decision led the program to the first restructuring in 2003 which was mostly about the redesign of airframe to secure more room for armament and reduce the weight caused by adding armament. Furthermore, the JSF program’s concurrency of technology advancement, program development, test, and production is substantial⁵²². So it is highly probable that failure in one part can impact other parts of the program and lead the whole program to failure. In fact, the program development without technological maturation caused the increase in development cost and the depletion of reserve funds⁵²³. The depletion of reserve funds led to the second program restructuring in 2007, which contained the plan of entering the production phase while test flights were going on⁵²⁴. This flaw in the program was caused by the conflict of the program’s two main objectives – technological advancement and replacement of legacy jet fighter. The ambitious attempt to achieve both objectives became serious threats to the program.

The Department of Defense recently released an announcement of the sixth generation jet fighter development initiative⁵²⁵. The concept of the sixth generation jet fighter makes the JSF program obsolete.

⁵¹⁹ GAO, 2001, *Joint Strike Fighter Acquisition: Mature Critical Technologies Needed to Reduce Risks*; GAO, 2005.

⁵²⁰ Lee Ferran, 2012, “US Weapons Man: F-35 Fighter Plan Was ‘Acquisition Malpractice’,” in *ABC news* (Feb. 7. 2012; <http://abcnews.go.com/Blotter/35-fighter-plan-acquisition-malpractice-pentagon-official/story?id=15530008>)

⁵²¹ David Martin, 2014, “Is the F-35 worth it?” in *60 minutes* (Jun 1. 2014; <http://www.cbsnews.com/news/f-35-60-minutes-david-martin/>)

⁵²² GAO, 2014.

⁵²³ GAO, 2005.

⁵²⁴ GAO, 2007, *Joint Strike Fighter: Progress Made and Challenges Remain*.

⁵²⁵ Paul McLeary, 2015, *New Budget Will Feature 6th Gen Fighter* (Jan 28, 2015; <Http://www.defensenews.com>)

According to the released information, these two programs have shared features in avionics and stealth capability⁵²⁶. Compared to the JSF program, the sixth generation jet fighter has significant differences in weapon systems and operating software programs – a directed energy weapon system and the addition of unmanned operating option⁵²⁷. Considering the two programs share capabilities in avionics and stealth technology while they are distinguished in weapon technology and operating software, it would have been a better option to invest time and resources in technological maturation while upgrading other legacy jet fighters to fill the jet fighter gap and then leap directly to the development of the sixth generation jet fighter.

/story/defense/air-space/strike/2015/01/28/sixth-generation-fighter-2016-budget/22477329/)

⁵²⁶ Paul McLeary, 2015.

⁵²⁷ Zachary Keck, 2015, *US Navy's 6th Generation Fighter Jets Will Be Slow and Unstealthy*, (Feb. 5. 2015, <http://nationalinterest.org/blog/the-buzz/us-navys-6th-generation-fighter-jets-will-be-slow-unstealthy-12193>)

Part II. Congressional Decision Making Process

Militarism is a type of ideology that gives more value to military ideas than to civilian life. In general, militarism coincides with conservatism and individualism⁵²⁸. Considering the political environment inside Congress and the public mood reflected in public opinion, it is highly probable that there has been a unique type of militarism in the United States. In the political arena, the congressional committee which is responsible for national defense seems to be inclined to be conservative in the matter of ideology – more conservative than the median in the House of Representatives. Speaking of public opinion, the US public has shown a relatively high level of confidence in the military compared to other public service organizations. The Gallup polls asking about public confidence in the military since the year 2001 have shown that the US public has maintained their support for their military, even after the twelve years of military engagement in Iraq and Afghanistan. In addition to that, I argue in the previous chapter that the level of public support to the military has positively influenced defense budget increases.

However, these arguments do not explain what happens in each congressional district but rather what happens at the national level due to the following reasons. First, the House Armed Services Committee is responsible for the jurisdiction regarding national defense. The committee is the right unit of analysis to examine the ideological inclination of the House as a whole, but it does not represent the choices of each member of the House of Representatives. Second, the participants in the polls that I refer to in the previous chapter do not represent the position of each congressional district's constituents. Rather, they were a sample to represent the whole American population. Both the ideological composition of the committee and polls at the national level are not the proper units of analysis to examine the effect of both ideology and public opinion on decision - making of members of the House of Representatives.

⁵²⁸ Vagts, 1959. Vagts argues that armies have always been associated with suppression, reaction, and counterrevolutions. He further claims that the conservatism of soldiers is strengthened by the fact that the public places an inordinate expectation upon the military leaders. He states that both the conservatism and individualism of the soldier make him feel resentful at civilian interference in military affairs.

In order to scrutinize the influence of these factors on the decision-making process of each legislator – house members in congress –, the two factors of ideology and public opinion are required to be modified into proper form that can show their effect on each legislator's decision-making process. In addition, it is required to put these factors in the context of previous studies and to find their meanings within the literature.

Researchers have approached the legislative decision-making process with the two perspectives – Congress as a political institution and Congress as the place where individual legislators express their thoughts. Previous literature has focused on the fact that Congress is an institution to be managed by several rules that define the parliamentary procedure of the US Congress, including the decision making process and other important business such as hearings. On top of the studies on individual legislators' voting behavior, researchers have attempted to analyze the effect of rules that define the voting procedure in Congress. These studies show that it is possible to predict the result of a roll call vote by analyzing individual legislators' voting patterns and the rules that define the parliamentary procedure regarding roll call vote. The quorum to determine the result of a roll call vote in Congress is an example of these rules.

The previous literature also recommends using factors such as ideology, party, and committee membership to explain the decision-making process of legislators in Congress. When it comes to individual legislators, ideology and partisanship are the primary factors which influence legislators' choices in roll-call votes. Furthermore, these factors also function as a linkage between constituents and their representatives. A few studies reveal that electoral connection between constituents and candidates – no matter whether they are incumbent candidates or challengers – generates desire for legislators to be re-elected and leads them to synchronize their political attributes with constituents.

In addition to that, the legislative decision-making process can be an economic issue when the Congressional budgetary process is involved. Specifically, defense budget is a discretionary budget which requires annual authorization and appropriation bills passed in Congress. In this case, national defense is

more than just an ideological matter. National defense has economic aspects and has influence over the national economy, including all level of administrative districts such as county, city and state. The congressional district is one of the administrative districts where national defense might influence the local economy. Electoral connection opens the possibility that several economic participants in defense policy such as defense industries can exercise influence over the legislative decision-making process through lobbying or political donation to legislators.

Plan of the Part

In the following chapter, I describe in detail how previous theories and research programs examined the voting behaviors of members of Congress on the defense budget bills. Furthermore, I introduce the result of a pilot study – which examined the effect of traditional factors on the passage of amendments – as an example to show a mechanism in which the traditional factors may influence the Congressional decision-making process. From the literature review and the pilot test, I shed light on the finding that the authorization process and appropriations process are quite different from each other, even though they are subordinate parts of the Congressional Budgetary Process, and further propose contributions that this dissertation can make to the literature.

In chapter VI, I describe the data and the methodology that I use for the dissertation. I implement a linear regression model for analyzing the data which includes voting results of individual legislators and the contents of amendments regarding annual defense budget authorization and appropriation bills of the period from 1993 to 2012. The data also contains military contracts data, donations from Political Action Committees, and other economic factors.

In chapter VII and VIII, I analyze the result of the model, draw implications, and address the problems and limitations of this research.

Chapter 6. Congressional Decision-Making and Budgetary Process

The research topic of this dissertation is congressional influence on defense policies. Before getting into the topic, it is required to investigate how previous studies have approached this topic. Congressional influence on defense policies has been studied with the following three perspectives: defense policy as a federal policy, Congress as a political institution, and the federal budget process that includes authorization and appropriation processes. In addition, I analyzed how factors like party status, vote predations based on ideology determine the fate of amendments and how differently these factors influence the vote results in authorization process as compared to appropriations process.

1. Defense Policy as a Federal Policy

As I stated in the first chapter, defense policy deals with two fronts -- one for external threats, the other for its domestic foundations. Along these two fronts, scholars have divided defense policies into three categories: strategic policy, crisis policy and structural policy (Huntington, 1961).⁵²⁹ Strategic policy and crisis policy primarily deal with the external threats while structural policy deals with the domestic foundations (Ripley, 1980).

According to Huntington, structural policy issues are related to personnel, organizations and equipment procurement (Huntington, 1961; Kaufman et.al., 1985; Hays et.al., 1997). Generally, Congress makes the final decision on each policy agenda of structural defense policy through the formal legislative process, even though policies are initiated by the Department of Defense and its services (Ripley, 1980). Previous studies focused on congressional budgetary authority over the defense budgets and the connections between defense budgets and constituents. (Rundquist et.al, 1996; 1999; 2002; Thorpe, 2011)

2. The difference between strategic policy and crisis policy is unclear due to the fact that these two sub areas of defense policy deal with same aspect of defense policy (Huntington, 1961). One possible way to distinguish one from the other is to focus on the phase each of them is related to. Strategic policy is more about to develop strategies on the basis of expectation on future contingency while crisis policy is about how to deal on-going crisis with strategies which were developed in advance.

On the other hand, strategic policy pursues specific programs or deals with special situations. Those programs and situations are initiated by external threats such as changes of the international security environment (Huntington, 1961; Ripley, 1980, Hays et.al. 1997). Additionally, crisis policy is about how to deal with the crises which occur with unexpected time and space (Ripley, 1980; 1988). Scholars have focused on the presidential use of force in the event of international crisis (Baker, 2001; Hetherington, 2003; Groeloin, 2008). Most studies attempted to analyze the impact of presidential use of force on public opinion or the effect of changes in public opinion on the following changes of military strategies, including use of force during the prolonged period of crisis (Baker, 2001; Hetherington, 2003; Groeloin, 2008).

Because strategic and crisis policies require the responsible agencies of policies to react with professional skills and knowledge within a relatively short time, the president and the Department of Defense have the authority to initiate actions, even though Congress has the final decision authority (Ripley, 1980). Considering the fact that these policy areas are classified for professional soldiers, these have been not the subjects of negotiation or bargaining in Congress but one of persuasions required to gain support from Congress (Huntington, 1961, Hays et.al. 1997). Congress also has been inclined to defer to the executive branch's initiatives on military strategies in defense policy.

On presidential and executive branches' strong initiatives in strategic issues, Deering comments that it is difficult for Congress to influence the execution of defense policy, especially strategic issues, because execution of defense policy is entirely up to professional soldiers and military organizations (Deering et.al, 1989). As a consequence, he argues that the only areas in defense policy in which Congress can assert its influence are budget related areas such as program authorization and budget authorization (Deering et.al, 1989).

Hays et.al.(1997) argue that the influence of Congress has been increased in the defense policy decision-making process because defense policy is related to the federal budget process. Referring to the fact that a budget can be effective after passing the process of authorization and appropriations, they argue that it is necessary to analyze how military-related actors, such as Congress, the Department of Defense, and each service, interact with Congress during the processes of authorization and appropriation (Hays et

al., 1997). Some scholars attempted to analyze how public opinion influences the scale of the defense budget (Hartley et. al, 1992, Rundquist et.al.,1999; 2002).

Rundquist and Carsey attempted to apply the distributive politics theory to defense spending, arguing that it is problematic to understand defense spending as simply a public good for the national security (Rundquist and Carsey, 2002). They developed a model that includes party, committee, ideology, benefit to constituencies, and universalism as independent variables. Then, they applied it to defense spending from 1963 to 1995. They concluded that defense spending can be accurately examined and predicted using distributive politics theories, and that defense spending is one of the target areas over which most members of Congress desire to exert their influence (Rundquist and Carsey, 2002).

In addition to that, other studies analyzed how Congress affected certain defense procurement programs such as missile defense and SDI (Strategic Defense Initiatives) (Lindsay, 1990; Rundquist and Carsey, 2002). While doing these projects, most scholars analyze how each member of Congress votes for the specific programs and which facts determine their voting behaviors (Lindsay, 1990; Higgs, 1988; Twight, 1989).⁵³⁰

Some defense specialists attempted to analyze defense budgets in the aspect of connection with national economic status (Choshroy, 2011; Lindsay and Ripley, 1992). They found that the budget of RDT&E (Research, Development, Test and Evaluation) has been hidden from detailed scrutiny largely because it is politically safe for members of Congress to support research, while defense procurement programs have been scrutinized by both public and Congress (Choshroy, 2011; Lindsay and Ripley, 1992).

As the result of literature review on defense policy, I can conclude that the most significant area of defense policy over which Congress can exercise its authority is structural defense policy, specifically the

⁵³⁰ In *Congress and Defense Policy*, Barry S. Rundquist et.al used Prime Contractor Award as measurement of defense budget in order to find the specific amount of budget that benefitted the certain states or district (Rundquist and Carsey, 2002).

defense budget. Moreover, it is necessary to analyze the budget items which include RDT&E as well as procurement programs by which legislators can benefit their constituencies.

2. Congress as a Political Institution

Institutionally, Congress has authority and power to approve the federal policies pursued by the executive branch. Considering the fact that defense policy is one of the federal policy areas affected by congressional influence, it is necessary to understand how Congress makes decisions to use its authority. This issue has been studied and analyzed within the framework of the political institutions of the American government (Deering et.al., 1997; Poole and Rosenthal, 1991; Krehbiel, 1998; Rundquist and Carsey, 2002; Cox and McCubbin, 2005).

A. The Process in which a Bill Takes in House⁵³¹

Before getting into the case, it is necessary to understand the process through which U.S. House of Representatives deals with proposed bills. First, one of Representatives or Senators submits a bill to his chamber with his own sponsorship. The bill will be given its legislative number and referred to the committee, which has a jurisdiction over the area related to the bill, by the House Speaker. Second, once the committee receives the bill, the members of the committee modify the bill through the processes of *public hearings* and *markup sessions*. After that, the members of the committee determine whether or not it will report the bill to the floor. If the committee determines to report the bill, it sends a committee report which has a title and a number that includes a prefix of '*House Report*⁵³²' to the floor. Third, when a bill arrives at the floor of the House, the bill enters the process of *debates* and *amendments*. The debate process is the process in which members of House are discussing whether or not the contents of the bill are eligible for the purpose of the bill. If a bill is determined not to be eligible to pass, the bill moves to

⁵³¹ John V. Sullivan, 2007, *How our laws are made*, Washington D.C : USGPO

⁵³² John V. Sullivan, 2007, pp.15-18.

the process of amendments. The amendment process is the process in which members of House are discussing and determining which part of the contents of a bill is required to be changed, how it needs to be modified, and whether this change will be made through votes. The votes can take the form of several types such as roll call votes, voiced votes, etc. Fourth, after completing all these processes, members of the House determine to pass the bill by a vote.

In the congressional decision-making process, the amendment process offers non-committee members opportunities to propose changes to bills reported by the committee of related jurisdiction. Even though special rules regarding amendments in House prohibit non-committee members from proposing amendments from the House floor in most cases, the amendment process is a stage and time for legislators to express their positions and opinions which are not likely to be considered during the draft stage of a bill. Moreover, voting in House performs a critical role to determine the fate of an amendment. Voting in House also gives opportunities for legislators to express their position to legislations by choosing ‘Nay,’ ‘Yea,’ or ‘present.’ Differing from voice votes, the choice of a legislator is recorded in a recorded vote, which also requires another one fifth of quorum (44 members) to be proceeded after the decision to proceed a voice vote. When an amendment is on a recorded vote, it means that the amendment is quite controversial to be determined by a voice vote. In this sense, recorded vote – roll call vote– are the very means to indicate how legislators considering a bill and related amendments, and to reveal legislators’ specific positions and opinions to the public or their constituents.

The studies on Congress have examined the congressional decision-making process in three perspectives: committee based, party based and chamber based perspectives. These three perspectives differ from each other depending on how principals in Congress control Congressional Committees (Deering et.al., 1997). Committee-oriented perspective assumes that committees have sufficient autonomous authority to pursue their goal without significant interference from chambers or parties, each committee leading legislative affairs of its jurisdiction with strong initiatives by following committee members’ preferences. The majority party-oriented perspective assumes that committees are mere agents

who just follow the directives or decisions from the majority party. The chamber-oriented perspective assumes that committees are inclined to comply with what each chamber's majority coalition wants, rather than doing what the majority party wants when the majority party cohesion is weak.

Distributive politics theory is one example of how these three perspectives can be applied into a specific area – Congressional budget process. Distributive politics theory offers the framework to understand how each legislator acts in Congress in order to give budgetary benefit to his constituency. This theory is based on the assumption that legislators are inclined to “organize Congress and [then], create and implement policies so that they can better direct benefits to their constituencies, to get reelected” (Rundquist and Carsey, 2002).⁵³³ All three perspectives prove this assumption (Rundquist and Carsey, 2002).

In order to predict voting in Congress, Krehbiel developed a spatial theory on the basis of the assumption that the median voter has the pivotal power to determine whether a bill passes or fails (Krehbiel, 1998). He assumes that each legislator has his own preference that can be converted into a position in a uni-dimensional policy space, and argues that it is possible to predict the possibility of a gridlock by finding the median voter and the position of a policy on the uni-dimensional space (Krehbiel, 1998). After applying this theory to Congressional voting behavior, he suggests partisanship, ideology, constituencies and committee as possible significant factors that determine legislators' preferences. (Krehbiel, 1998).

Cox and McCubbins examine the power of the majority party with the concept of agenda-setting power (2005). They assume that each committee has the authority to choose the positions of policy agendas on its jurisdictional policy area, and conclude that the majority party can exert the delegated

⁵³³ Rundquist and Carsey attempted to bring the distributive politics theory to defense policy. By criticizing the previous literature that had considered defense policy as a policy area that is too important for distributive politics to affect, he argues that it is necessary to analyze defense policy – especially procurement programs – with perspective of distributive politics (Rundquist and Carsey, 2002).

agenda power by designating its party members to the influential offices of each committee (Cox and McCubbin, 2005).

Poole and Rosenthal further develop the median voter theorem into multi-dimensional spatial models. After analyzing the results of all roll call votes since 1789 using multi-dimensional spatial models, they argue that even though it is possible to use various dimensions, most roll call vote results can be explained by party loyalty and ideology. They consider the ideology as the primary factor that determines the voting behavior of each member of Congress (Poole and Rosenthal, 1991). In addition to that, they further expect that if other specific dimensions are applied for short term predictions, it will be possible to explain voting behaviors and voting results in the US Congress (Poole and Rosenthal, 1991).

The literature review regarding Congress as a political institution points to the significance of partisanship, ideology, and influence of committee in determining the votes of legislators (Poole and Rosenthal, 1991, Krehbiel, 1998, Cox and McCubbins, 2005; Crespín and Rhode, 2010). Among them, partisanship and ideology are factors that determine the vote of each legislator – ye or nay –, while influence of committees is mostly related to the process (drafting stage) or the product of process (the bill) (Deering, 1989; Shepsle and Boncheck, 1997; Cox and McCubbins, 2005).

If a legislator is influenced by his party, which can exercise influence through agenda setting and committee appointments, he might follow the choice of the majority of his fellow party members (Cox and McCubbins, 2005). On the other hand, if she mostly follows her personal ideology when voting on a roll call vote, she might vote based on whether the bill or amended bill is closer to her ideology. (Poole and Rosenthal, 1991; Krehbiel, 1998). Furthermore, in the House of Representatives, the rules of the game require the simple majority of 218 votes to secure passage of an amendment. Consequently, it can be concluded that these three factors can influence both the passage of an amendment and the individual votes on the amendment.

A. Partisanship (Party politics)

The previous research shows that party can exercise influence on its members through agenda-setting power and committee appointment authority (Deering, 1989; Shepsle and Bonchek, 1997; Cox and McCubbins, 2005). If political parties matter in the legislative process, each legislator is likely to vote in compliance with his party. In this case, the degree of party unity in the vote is high in either a negative or positive direction for the amendment. Consequently, if political parties influence members, the degree of party unity is high. When a majority party determines to pass a piece of legislation, the members of the majority party are likely to act together in a positive direction for an amendment. On the other hand, when the majority party determines to defeat a measure, the members of the majority party are likely to act together in a negative direction on an amendment. Specifically, when the majority party has control over the related committee and the committee does not want to change its bills (Krehbiel, 1998), the majority party may act together to defeat amendments. The Rice number is an index to measure the party unity of both majority party and minority party. (See Figure 6-1.)

$$RICE_{party\ i} = \left| \frac{AYES_{party\ i} - NAYS_{party\ i}}{Total\ Votes_{party\ i}} \right|$$

Figure 6-1. RICE Cohesion Score

Moreover, when the gap between majority and minority is not large⁵³⁴, there is a possibility that the minority party can affect the result of a roll call votes even though the minority party cannot determine the result of a roll call vote by itself. When the majority party does not act together in a roll call vote, the minority party can control the result of a roll call vote by acting together. Consequently, it can be said that the result of a roll call vote is determined partly by the minority party, even though the majority party controls a majority of seats (more than 218 seats in House). Considering the theory of party politics,

⁵³⁴ The largest gap was 78 and the smallest was 10. The mean was 23?.

the most significant factor that determines the passage of an amendment is whether the majority party unifies and how strongly the majority party acts together.

B. Ideological Position of Individual Legislator

Institutionally, legislators choose between two versions of legislative pieces – an original bill and a draft of amendment to the original bill– in the amendment process (Poole and Rosenthal, 1991; Krehbiel, 1998). When a legislator chooses one of them, he will choose the one that is the most preferred (Poole and Rosenthal, 1991, Krehbiel, 1998). If the ideology is the main factor that he considers when making a decision, he will choose the one that is closer than the other in terms of ideology.

Assuming that ideology⁵³⁵ is the most significant factor that determines the voting in Congress, the sponsor of a bill might consider fellow members ideologies when proposing an amendment. If he intends to change a bill by passing the amendment, he might consider how many legislators prefer an amended bill to the current, un-amended bill. Assuming that legislators maintain consistent ideological positions during their terms, a sponsor can predict the probability of passage and only propose an amendment that is expected to pass. Consequently, the more legislators vote with their ideological preference, the more accurate the vote prediction is. Moreover, the more accurate the vote prediction is, the more probable an amendment is to pass.

C. Armed Services Committee and Economic Benefits

Considering the fact that the authorization and appropriation processes create the federal budgets, amendments of this process are supposed to adjust the amount of money in the total budget. These adjustments are divided into three categories. First, there are negative adjustments to reduce the amount

⁵³⁵ Ideologies are systems of belief that are elaborate, integrated and coherent, that justify the exercise of power, explain and judge historical event, identify political right and wrong, set forth the interconnections between politics and other sphere of activity and furnish guides for actions.(Herbert McClosky, "Consensus and Ideology in American Politics," in *The American Political Science Review*, Vol.58, No.2 (June, 1964) p. 362)

of budget or prohibit the use of budget. Second, there are positive adjustments to increase the amount of budget. Third, there are cases to transfer a part of budget from one item to another.

According to the committee based theory, a committee has professional information in its jurisdiction, and legislators who are not members of the committee are inclined to rely on the committee's information when they make decisions on issues that are related to the committee's jurisdiction (Deering, 1989; Deering et.al., 1997, Shepsle and Bonchek, 1997; Cox and McCubbins, 2005). According to the informative and distributive politics theories, each committee has access to valuable information related to its jurisdiction that the committee can use to exercise influence on the decision making process, by giving information that offers more benefit to committee members. In addition to that, legislators are inclined to make enormous efforts to become a member of the committees that are beneficial for their constituencies in order to be re-elected.

Considering the fact that committee membership is closely connected with economic benefit to committee members' districts, the members of military related committees are likely to support the amendments that are favorable to defense spending by offering positive information for the amendments, while likely to hesitate to act for the amendments that are not favorable to defense spending by offering negative information about the amendments. Furthermore, when a legislator comes from the districts where its economy relies on defense industries, the legislator is likely to support the amendments favorable to defense spending and vote for the amendments.

D. Militarism and Congress

Moreover, *American militarism* in the Congress serves as the link between results of legislative votes regarding military procurement programs and the traditional factors that explain the voting behaviors of members of Congress. The following phenomena indicate the Militarism in Congress. First, regardless their general ideological position, members of Congress tend to vote on military bills with

more conservative positions than they usually do on other issues (Bacevich, 2005; Lewis, 2012). Second, if a defense related bill passes, it is less likely for members of Congress to have voted with their ideological position and more likely to be prone to the conservative position (Bacevich, 2005; Lewis, 2012). Third, considering the fact that defense policy is a professional arena that might not be understood by members lacking specialized knowledge, members of Congress might consent to the decisions or products of the related responsible committee in both chambers of the United States (Deering, 1989; Groseclose, 1994; Krehbiel, 1998). Moreover, the committee consists of more conservative members compared to the mean or the median position of the whole chamber (Deering, 1989; Groseclose, 1994; Krehbiel, 1998).

3. Federal Budget Process

A. Authorization Process and Appropriation Process

In the United States, in order for the federal government to pursue a certain program or policy, it is necessary to obtain Congressional approval on the federal budget. The budget process consists of two different tasks - authorization and appropriation (OMB, 2008). Authorization means the process by which the executive branch obtains the authority from the Congress in order to pursue a certain program or policy (OMB, 2008). Through authorization, the executive branch can have the authority to include the approved programs in the annual budget proposal. Essentially, the authorization is centered on approving or disapproving a program and policy, rather than determining a certain amount of budget for the program (OMB, 2008).

The other task in the budget process is appropriation. Appropriation is the process of settling the annual budget – how much money to be spent for the programs and policies during a certain year (OMB, 2008). Appropriation is the task of each chamber's Appropriation Committee and its subcommittees. Through the appropriation process, each agency and department obtains the authority to draw money in order to pursue the programs and policies in the appropriation bill.

B. Categories in Defense Budget

As I already described, defense authorization bills and appropriation bills deal with the Federal budget— money. In most previous studies, procurement programs and its budget have been the focus of research (Lindsay, 1990; Higgs, 1988; Twight, 1989, Rundquist, 2002). Procurement programs have been recognized as core research projects, because this is the area of budget where a member of Congress can make a difference for her political intent (Rundquist, 2002). Moreover, other budget items such as the budget for maintenance and operation have not been under the influence of Congress due to the fact that the budget is required to maintain the military organizations for their basic mission.

Considering that this is an analysis on amendments to annual defense authorization and appropriation bills, it is necessary to scrutinize the contents of the budget item. In order to analyze the contents of budget items, I sorted the contents of each amendment in accordance with budget categories in the defense budget request form; “1” for basic, applied, and advance technology in RDT&E phase; “2” for system development, test and evaluation; “3” for procurement; “4” for general operation and maintenance⁵³⁶; “5” for military constructions and BRAC (Base Realignment and Closure); “6” for general items that are related to the whole budget.

<Table 6-1. Budget Categories>

	All amendments (n=327)	Authorization (n=215)	Appropriation (n=112)
Category 1	21	8	13
Category 2	23	17	6
Category 3	23	12	11
Category 4	197	135	62
Category 5	9	7	2
Category 6	54	36	1

Note : 1: basic, applied, advanced technology, 2: system development and evaluation, 3: procurement
4: operations and maintenance, 5: military construction, 6: etc

⁵³⁶ I included the budget item ‘Personnel’ in ‘Operations and Maintenance’, because basically the budget for personnel is

When I reviewed the category of budget items related to each amendment, most of the amendments were included in the category of ‘Operation and Maintenance’ (Category IV). It was followed by ‘General items’ (Category VI) and others. In percentages, the appropriation bills had more amendments that were related to procurement and RDT&E than the authorization bills had.

In addition, a recent study showed that some significant programs, such as *Missile Defense System Program* or *Joint Strike Fighter Program*, have been included in RDT&E⁵³⁷ phase even though they entered in the stage of procurement. The study also argues that some programs have stayed in the phase of RDT&E intentionally to escape from intense budget screening along with the budget process. Considering this fact, it is necessary to scrutinize the budget items in the RDT&E phase.

Consequently, a program or a legislator whose districts are benefitted by defense programs is an important area of research to shed light on the relationships between defense budget and choice of individual legislators in Congressional budgetary process. Moreover, two separate budget processes need to be analyzed individually, due to the fact that their functions and roles are quite different from each other.

C. Annual Budget Process

An annual budget process begins with the preparation of a presidential federal budget proposal (US Congress, 2007). When the proposal is completed, the White House sends this to the Congress. Once the presidential proposal arrives in the Congress, committees of both chambers review, modify, and amend the presidential proposal with the cooperation of the federal executive agencies (US Congress, 2007). After that, each committee releases an authorization bill and sends the bill to the Office of Congressional Budget for developing an annual budget resolution (US Congress, 2007).

Under the guidance of an annual budget resolution, each chamber’s appropriation committee allocates the total budget to its subcommittees to review, modify, and amend budget ceilings and related

⁵³⁷ I used the same categories that have been used by DoD. An example of defense budget can be found at this URL. http://comptroller.defense.gov/defbudget/fy2012/fy2012_r1.pdf.

programs (US Congress, 2007). After completing the subcommittee's review and modification, each subcommittee sends the result to the appropriation committee. The appropriation committee finalizes the appropriation bill and sends it to the floor in order to consider amending the bill with all members of the chamber (US Congress, 2007).

Studies on the federal budget process deal with two aspects: the institutional aspect that defines the budget processes, and the process & products (Deering et.al, 1997; Sinclair, 2005). Studies on the institutional aspect of the budget process focused on who has the initiative in the budget process and how to define the relationship between the three major actors in the congressional budgetary process –House Appropriation Committee, House Speaker and the President (Gordon, 2008).

Moreover, most studies on the budget process and products closely connect to distributive politics. Crespin et.al attempted to analyze all floor roll call votes of the 100th -107th Congress appropriation bills and concluded that it is necessary to consider particular issue positions, rather than just focusing on ideological factors of liberal and conservative (Crespin et. al, 2010). This study confirms that the appropriation process can be analyzed from the viewpoint of distributive politics and suggests examining the Congressional budget process with a distributive politics framework.

On the other hand, there are a few studies focusing on the interactions between the executive branch (the U.S. President) and the legislative branch (U.S. Congress) in the federal budget process (Sinclair, 2005; Gordon, 2008). Kernell et.al focuses on the interaction between specific agencies which are in charge of budget process -- OMB (the Office of Management and Budget) for the executive branch and CBO (the Congressional Budgetary Office) for the legislative branch (Kernell et.al, 1999).

4. Pilot Study: Institutional Level Analysis and Two Budget Processes

In a pilot study⁵³⁸, I focused on the factors that influence voting of defense budget. In order to examine the effect of these factors, I analyzed roll-call votes on amendments to the defense budget bills which were included in annual defense authorization and appropriation bills.

<Figure 6-2. Model 1: Logistics model for estimating the result of roll call vote>

$$\begin{aligned} \text{Roll Call Vote Result}_i &= \alpha + \beta_1 \cdot \text{Party unity(MJ)}_i + \beta_2 \cdot \text{Party unity(MN)}_i + \beta_3 \cdot \text{vote predic.ideo.}_i \\ &+ \beta_4 \cdot \text{Dollar Amount.}_i \end{aligned}$$

*Roll call Vote Result : a dummy variable (Fail= '0', Pass= '1')

$$\text{*Party Unity (MJ)= RICE}_{\text{party MJ } i} = \left| \frac{\text{AYES}_{\text{party MJ } i} - \text{NAYS}_{\text{party MJ } i}}{\text{Total Votes}_{\text{party MJ } i}} \right|$$

$$\text{*Party Unity (MN)= RICE}_{\text{party MN } i} = \left| \frac{\text{AYES}_{\text{party MN } i} - \text{NAYS}_{\text{party MN } i}}{\text{Total Votes}_{\text{party MN } i}} \right|$$

*For 'vote predict. ideo.', footnote 593.

The dependent variable is the result of each roll call vote on several amendments to the defense authorization bills and appropriations bills of the given congressional terms. I considered the dependent variable as a dummy variable. The dependent variable was measured in accordance with the result of a roll call vote – whether or not each amendment passed. I coded the result as “1” if the amendment passed, otherwise I coded as “0”.

From the previous studies regarding congressional roll-call votes, I drew three possible factors to explain the success of amendments to annual defense authorization and appropriation bills: partisanship (majority status and minority), ideology, and dollar amount of amendments. I estimated a logistic regression model to examine these factors influence on the passage of roll call votes to amendments. According to the result, authorization process is more predictable than appropriation process. In authorization process, majority party unity, accuracy of vote prediction based on ideology and cost of

⁵³⁸ I attempted to analyze the effect of factors – such as ideology, party, budget categories, and dollar amount in each amendments – on the probability of passage of each amendment. The period covers from 1993 to 2012 which is the 103rd to the 112th Congress in Congressional term. The amendments were drafted to amend the annual defense authorization and appropriations bills of the period.

amendment show statistical significances while, in appropriation process, only majority party unity shows a statistical significance of ‘0.1’.

<Table 6-2. Result of Logistic Model>

	Authorization	Appropriation
	Prob. Pass.	Prob. Pass.
A. Majority Party unity	3.917 (1.73×10^{-5})***	2.175 (0.0769) .
B. Minority Party Unity	1.027 (0.1560)	1.46 (0.15362)
C. Accuracy of Vote Prediction based on ideology	1.081 (4.37×10^{-5}) ***	5.368 (0.14307)
D. Dollar amount (\$ Million)	-4.649 (0.00311) **	-0.9666 (0.39046)
Const.	-0.5892 (0.2249)**	-2.02 (0.4661)***
Obs.	227	112

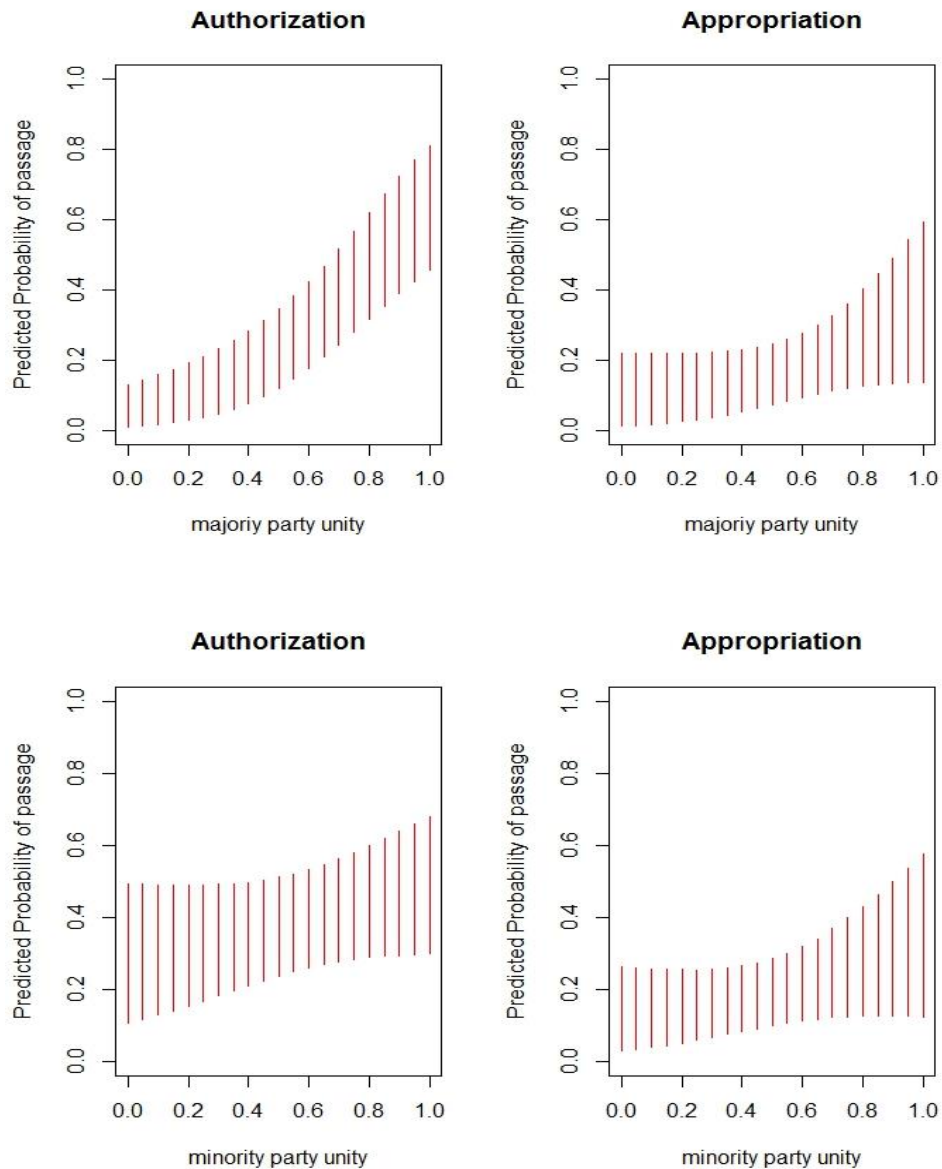
Note: *** >0.00, **>0.001, *>0.05

A. Party Status

I attempted to examine the influence of the Rice Cohesion Score of both parties – the majority party and the minority party – on the result of each amendment. As a result, I obtained a positive relationship between the majority party’s unification and the probability of passage of each amendment (See Figure 6-3.)

Minority party unity also has a positive effect on the probability of passage but the effect is not strong enough when compared to majority party unity. (see Figure 6-3). The effect of the minority is conditional on majority party unity. When the difference between majority party members and minority party members is not large enough, the minority party can be more influential. In most cases, a majority party should be unified more than 85% for guaranteeing the passage of an amendment (See table 6-2.)

<Figure 6-3: Majority and Minority party unity and probability of passage>



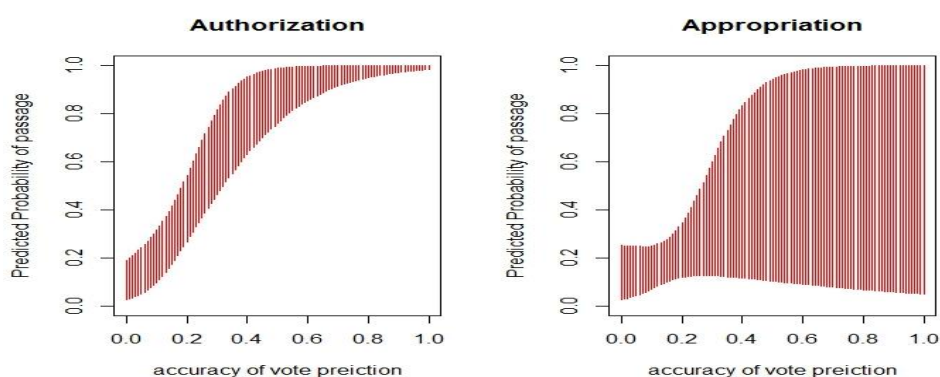
Note: model = glm (result of roll call vote ~ majority party Rice no, family = binomial, model= 'logit')

B. Accuracy of Vote Prediction based on Ideology

According to Poole and Rosenthal's argument, more than 85% of all roll call votes have been explained by legislators' ideology. So, if ideology is the primary factor that influences the voting behaviors of each legislator, each legislator is likely to vote on the basis of his or her ideology, regardless

of the possibility of passage of an amendment. In the pilot study, I generated an index of *accuracy of vote prediction based on ideology*⁵³⁹ to connect the ideological position of individual legislators with the fate of amendments. In order to examine the explanatory power of ideology on the result of roll call votes in amendments in annual defense authorization and appropriations process, I estimated the effect of accuracy of vote prediction based on ideology on the passage of amendments with a logistic model in order to examine the effect of ‘accuracy of vote prediction based on ideology’ on probability of passage (See Figure 6-4).

<Figure 6-4: % of votes not predicted by ideology and probability of passage>



Note: Ideology of amendment means the % of votes not predicted by ideology of each amendment.

⁵³⁹ In order to properly reflect the effect of the ideology of each amendment on passage of amendments, I operationalized the effect of ideology as the percentage of votes not predicted by ideology – accuracy of vote prediction based on ideology. The closer is the predicted result to the actual result, the more precisely does the vote result reflect the ideological aspect of each member of Congress. The variable was measured as the percentage of ‘total number of wrong predicted votes’ to ‘total number of votes’

The % of votes not predicted by ideology of each amendment was measured through five steps. First, I extracted each roll call vote’s ideology midpoint from Poole and Rosenthal’s data base and each legislator’s ideology position that was estimated by DW NOMINATE number. Second, I estimated the vote of each legislator by comparing his or her ideology position to the ideology midpoint of each roll call vote. Third, I compared the estimated result of each legislator and the actual one that the legislator voted. If the estimated and actual results are the same, I coded “1”. Otherwise, I coded “0”. Fourth, I counted the number of amendments that were coded as “0” and divided the result by the total number of House members. The product of this process is the % of votes not predicted by ideology.

In authorization bills, amendments are less likely to pass as ‘accuracy of vote prediction based on ideology’ increases⁵⁴⁰, while the amendments in appropriation bills do not show a clear relationship between two variables. In the authorization process, I predict that an amendment is likely to pass when other factors lead the members of Congress not to choose in accordance with their ideological position and to agree with the amendments. In the appropriation process, the error boundaries also fluctuate significantly. I estimate that ‘no clear relationship’ in the appropriation process is caused by relatively narrow difference between nays and yeas of the voting results.

C. Difference between Authorization and Appropriation

The result from the pilot study shows that the authorization process and the appropriations process are distinguished from each other. First, in the case of the effect of party unity on passage of amendments, the amendments in appropriation bills have larger error boundaries than those in authorization bills. This result comes from the relatively low level of party unity in a positive direction in appropriation bills⁵⁴¹ (see top of Figure 6-3).

In authorization bills, most observations show a high degree of party unity (See the center graph of Figure 6-5). It means that most legislators were inclined to vote in compliance with their party. Moreover, when considering the fact that most observations are located in the top-left and the bottom-right parts of the graph, it can be said that members of each party are likely to vote in opposite direction to each other. In appropriation bills, most observations are located in the middle of the graph — between -0.5 and 0.5 (see the right graph of Figure 6-5). It means that most legislators were inclined not to vote in compliance with their party in appropriation bills.

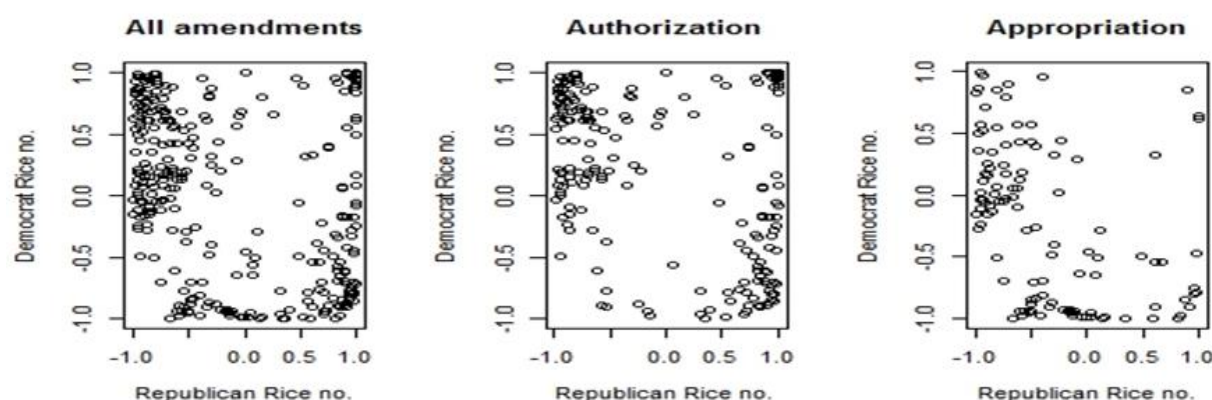
There are some amendments in which legislators of both parties voted in the same direction. (See both the center and the right graphs of Figure 6-5. The observations in the top right part and bottom left

⁵⁴⁰ In accuracy of vote prediction based on ideology, 0 means most accurate and 1 means least accurate.

⁵⁴¹ It can be thought that this symptom was also caused by the relative fewer amendments in appropriation bills that were passed with the high level of majority party unification. There was only one amendment that was passed with majority Rice no. “1”.

part are amendments that both parties voted in the same direction⁵⁴².) In these amendments, they voted favorably for the amendments to authorization bills but voted negatively for the amendment to appropriation bills (see the top right part and the bottom left part of each graph). Additionally, when each legislator did not vote in compliance with their parties, they were inclined to vote negatively for amendments to appropriations bills while they were inclined to vote positively for amendments to authorization bills (see the observations between ‘-.5’ and ‘.5’ of the both graphs)

<Figure 6-5: Rice no. (Dem vs. Rep.)>



Second, in the case of the effect of ‘accuracy of vote prediction based on ideology’ on passage of amendments, the amendments in authorization bills are less likely to pass as ‘accuracy of vote prediction based on ideology’ increases⁵⁴³, while the amendments in appropriation bills do not show a clear relationship between the two variables. Moreover, the error boundaries also fluctuated significantly. I also speculate that ‘no clear relationship’ was caused by a relatively narrow difference between nays and yeas of the results (see Fig. 6-5).

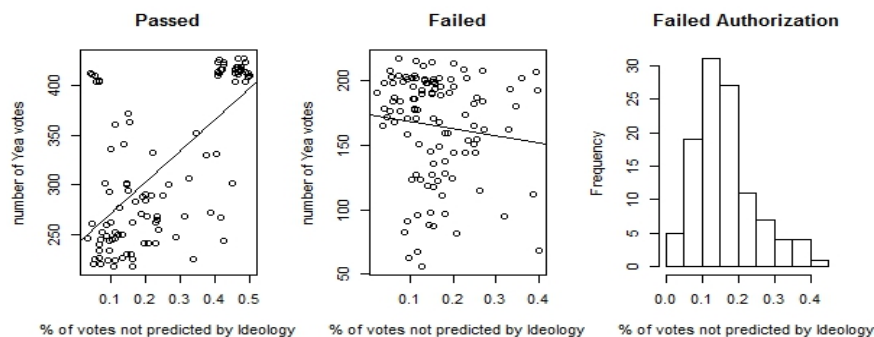
⁵⁴² The observations in the top right part of each graph means that both parties voted positively to an amendment while the observations in the bottom left of each graph means that both parties voted negatively to an amendment.

⁵⁴³ In accuracy of vote prediction based on ideology, 0 means most accurate and 1 means least accurate.

In order to trace the causes of these relatively wide error boundaries, I divided both appropriation bills and authorization bills into the passed amendments and the failed amendments, and checked the distribution of *% of votes not predicted by ideology* along the number of Yeas (See Figure 6-6 & 6-7). Additionally, I examined the relationship between the number of yeas and the accuracy of vote prediction based on ideology.

In the case of passed amendments to authorization bills, there is a clear linear relationship between the number of Yeas and ideological differences ($\Pr(>|t|)>0$). Moreover, a large proportion of observations are located in both top right and bottom left, which generates a positive linear relationship. In the case of failed amendments, most observations are located in the top left and there is no clear linear relationship ($\Pr(>|t|)=0.226$) (See figure 10).

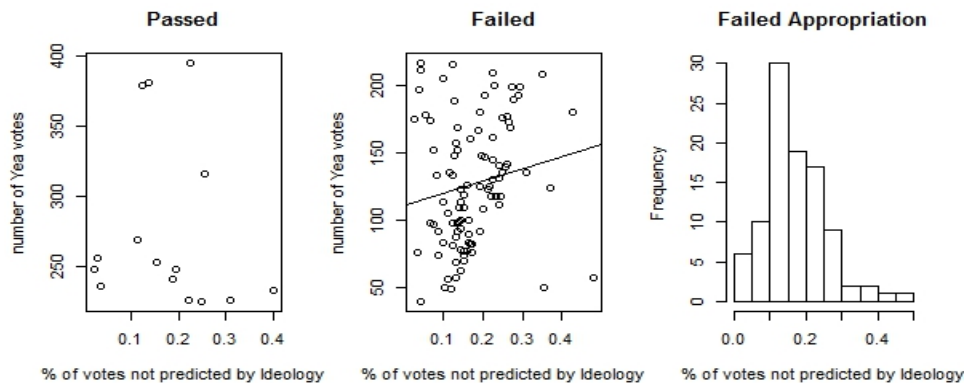
<Figure 6-6: % of votes not predicted by ideology of each Amendment in Authorization bills>



When legislators vote in accordance with their ideology, it is difficult to predict whether or not an amendment passes, due to the fact most amendments congregate within the space between 150 and 300 Yea votes. However, when legislators do not vote in accordance with their ideology, the amendments are more likely to pass with more than 400 Yea votes.

In cases of passed amendments to appropriation bills, most are widely dispersed along the X axis and they are located adjacent to the X axis. Only in cases of failed amendments is there a possible positive linear relationship with the coefficient of 92.70 ($\Pr(>|t|)=0.101$).

<Figure 6-7: % of votes not predicted by ideology of each amendment in Appropriation bills>



5. Summary : a Pilot Study and Literature Review

As the result of the pilot study and literature review, I found that traditional factors – such as party, ideology, committee, and other budget-related factors – can explain the fate of amendments in the congressional budgetary process, even though it has the limitations of not considering the contents of amendments and more specific connections between the amendments and benefits to congressional districts. However, it is worth emphasizing that the focus of the pilot study is not the drafting process but the amendment process. According to the distributive politics theory, a member of Congress is inclined to pursue the membership of the committee that is most closely related to her district or state. The process on which the membership of a committee has influence is the drafting process of a bill. In the pilot study, the membership of related committees – such as the House Armed Services Committee – does not have a critical influence, because I analyzed the amendment process, where the membership has little effect.

Moreover, the pilot study focused not on the voting behavior of each member of Congress, but on the results of the roll call vote for each amendment. Even though the member of Congress will cast a vote in the amendment process with a consideration of their constituents' benefits, the result of the roll call

vote is not likely to be determined by one member of Congress and it is rare that one budget item has a critical impact nation-wide.

However, the pilot study does not sufficiently reflect the connection between members of Congress and their constituents. Considering the fact that distributive politics theory offers the most valid explanation for behavior of members of Congress, it might be a significant limitation. Considering the fact that connection with constituency is a significant and influential factor in the drafting process and in estimating each member of Congress's voting behavior, it is necessary to apply this factor for specific program analyses and studies on committees.

The primary reason to focus on individual legislator level as the unit of analysis in Part II is that the focus of the dissertation is to examine the influence of factors on the choices of individual legislators in roll call votes regarding annual defense budget bills. Even though it is essential to the research to understand the process and rules of games in Congress, the central part of the dissertation should be factors that influence individual legislators – *partisanship, ideology, PAC contributions, and military contracts to their districts* – and the choices that the legislators make in roll call votes – *Yea or Nay*. Consequently, I will approach the Congressional influence on defense policy from the perspective of individual legislators.

6. Factors and hypotheses

From the results of the literature review on related theories, I drew four possible factors that can explain the choice of individual legislators regarding amendments to annual defense authorization and appropriation bills – partisanship (majority status), ideology, PAC contributions, and military contracts to districts.

According to the literature review, there are three significant factors that influence the decision-making process in U.S. Congress: partisanship, ideology, and influence of committees. Among them, partisanship and ideology are factors that determine the vote of each legislator – yea or nay, while influence of committees is mostly related to the process (drafting stage) or the product of process (the bill). In this part of the dissertation, I focus on partisanship and ideology and two other economic factors which have potential influence on legislator's choice regarding defense budget authorization and appropriation, because the main subject of the dissertation is not the process or fate of amendments but the choice of individual legislators⁵⁴⁴. With the frameworks of partisanship and ideology, it is possible to predict each legislator's choice on a roll call vote – yea or nay. If a legislator is compliant with his party, he might follow the choice of a majority of his party members. On the other hand, if she mostly follows her ideology when voting in a roll call vote, she might choose the one which is ideologically closest between the related bill itself and an amendment to it. Furthermore, I contend that economic factors such as PAC contributions to legislators and the amount of military contracts to their congressional districts can influence on legislators' choices regarding defense budget bills, considering *electoral connection between legislators and their constituents* and *the connection between defense industries and local economies* where these industries are operating.

Previous studies about defense budget in Congress are divided into two groups in accordance with the topics they covered. The first group has focused on specific weapon systems and examined how each legislator has voted on roll call votes related to the weapon systems (Gates, 1989; Lindsay, 1990;1991). The second group has focused on general trends about how legislators have chosen to vote

⁵⁴⁴ It does not mean that the influence of committee can be ignored in the studies regarding congressional decision making process. Rather, I attempt to focus on the choices of individual legislators and choose the most probable factors that can explain the choices. The influence of committee is covered in the chapter III which explains How the Armed Services Committee in both chambers of Congress responded to the military transformation and how the committees are composed in the matter of ideology.

on items related to defense spending (Dawson, 1962; Wildavsky, 1969; Ostrom, 1978; Bartel, 1991; Fleisher, 1993; Prins, 2001).

Researches in these two areas are very similar in their methodologies. Both groups typically generate an index for the dependent variable (the choice of individual legislators) by calculating the ratio of favorable votes to the whole chosen votes (Cobb, 1976; Ray, 1981; Bartel, 1991; Lindsay, 1990; 1991; Fleisher, 1993; Prins, 2001). All the votes in the first group are related to specific weapon procurement programs (Gates, 1989; Lindsay, 1990; 1991), while all the votes in the second group are related to general defense spending (Dawson, 1962; Wildavsky, 1969; Goss, 1972; Cobb, 1976; Ostrom, 1978; Ray, 1981; Bartel, 1991; Fleisher, 1993; Prins, 2001). For the independent variables, both groups of literature consider party, ideology (hawkishness), dollar value of military contracts in a member's district, military-related PAC contributions, and other variables (Cobb, 1976; Ray, 1981; Bartel, 1991; Lindsay, 1990; 1991; Fleisher, 1993; Prins, 2001).

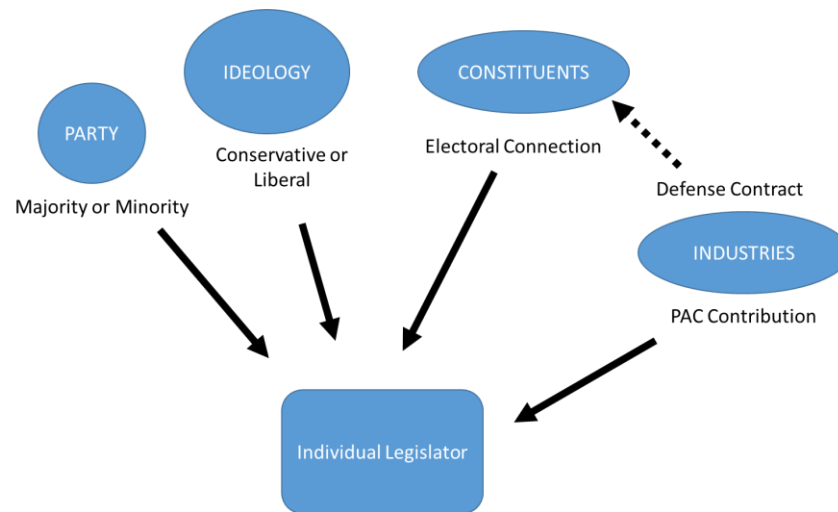
In this part of my dissertation, I consider the following three arguments as basic assumptions. *First, the ideology and party status is the primary factor to explain the results of roll-call votes related to defense spending. Second, other economic factors can influence the choice of individual legislators. Third, there are voting differences between the authorization process and the appropriations process.* Based on these assumptions, I describe individual legislators' choices in the amendments regarding defense budget bills and explain what drives individual legislators to make the choices.

I consider 'party status,' 'ideology,' 'amount of defense contracts to each district,' and 'amount of PAC contributions to each legislator' as factors to explain the choice of individual legislators regarding amendments to defense budget bills. As mentioned above, the related committee can influence non-committee legislators by offering professional information. Moreover, the committee is under the influence of the majority party. If an amendment is intended to change the original bill into the opposite direction of the committee's choice, the committee may offer negative information against the

amendment and persuade the majority party members to vote unfavorably to the amendment.

Consequently, I predict that *a majority party member is more likely to vote favorably for defense spending (hypothesis 1).*

<Figure 6-8. Theoretical Diagram of factors>



Ideology is another significant factor that determines each legislator's voting behavior. Institutionally, the amendment process is the process in which legislators choose one of two legislative pieces – a bill and its amendment. When a legislator chooses one of them, he will choose the one that is more preferable to the other. If the ideology is the main factor that he considers when making the decision, he will choose the one that is closer to his ideology. Consequently, it is possible to predict a legislator's vote by analyzing the relative ideological preference between a bill and its amendment. It also means that the prediction of voting behavior of each legislator is the consequence of calculation about relative ideological distances from the legislator to two legislations – a bill and an amendment.

If ideology of a legislator is the factor that explains the choice of the legislator, the legislator may choose the one that is closest to his ideological position. Consequently, I predict that *if a legislator is more conservative, the legislator is more likely to vote favorably to defense spending (hypothesis 2).*

Considering the fact that most legislators pursue to be re-elected (Mayhew, 1974; Fenno, 1978; Fiorina, 1989), legislators may pay attention on economic interests of constituents in their congressional district. Defense contracts to a legislator's congressional district could be counted as a kind of economic interest. Consequently, it can be said that *as a congressional district receives more defense contracts, the legislator elected from the congressional district is more likely to vote favorably for defense spending (Hypothesis 3).*

For the amount of defense PAC contribution to each legislator, I operationalize the variable as the amount of defense corporations' PAC contributions to each legislator. The previous studies show that PAC contributions may influence the change of wording rather than directly influence the choice of each legislator in a roll call vote (Goss, 1972; Hall, 1990; Lindsay, 1990; Fleisher, 1993). However, I assume that defense PAC contributions may affect the general defense view of each legislator.

As a legislator receives more PAC contributions from defense corporations, the legislator is more likely to vote favorably for defense spending (Hypothesis 4).

Chapter 7. Method and Data

1. Scope and the Unit of analysis

The period that this thesis covers is from 1993 to 2012 and, by administration, it covers from the first Clinton administration to the current (Obama) administration. I analyzed both defense authorization bills and appropriations bills of this period in order to examine the influence of Congress on defense policy. I focused on the amendments to the defense authorization bill and defense appropriations bill in each year during the given period. I found 227 amendments for authorization and 112 amendments for appropriation⁵⁴⁵. The unit of analysis of this research is each legislator who was a House member from the 103rd Congress to the 112th Congress. Each Congress had 435 members during the period.

This period can be defined with the concept of military transformation⁵⁴⁶. During the first Clinton administration, the literature of military transformation was formed. In the second term of President Clinton, this concept evolved into specific programs for realizing its vision. During the Bush administration, the U.S. was in a war while the concept of military transformation was being pursued. There were efforts to balance between reality and vision during the Bush administration. Now, the Obama administration prepares another shift from ‘a state of war’ to ‘a period of peace and preparation’.

I gathered the data primarily from the Congressional record⁵⁴⁷ and roll call vote record⁵⁴⁸ gathered by the Library of Congress. I used the vote result of each roll call vote on every amendment, and analyzed the contents of each amendment for categorizing each amendment into proper budget categories.

⁵⁴⁵ I counted all roll call votes on amendments to annual defense authorization and appropriation bills. I did not include roll call votes on final passage of the bills.

⁵⁴⁶ This paragraph was written on the basis of basic knowledge on military transformation. The literature of military transformation is highly debatable and enormous in contents. It encompasses wide range of defense policy from organizational management, operational adjustment and developing high-technology. I just address the period of the military transformation because whole literature review on military transformation is beyond the boundaries of this thesis.

⁵⁴⁷ <http://thomas.loc.gov/home/LegislativeData.php?&n=Record>

⁵⁴⁸ <http://thomas.loc.gov/home/rollcallvotes.html>

2. Estimation Model

<Figure 7-1. Model 1: Estimation of defense vote index for Authorization process>

$$Defense\ Vote\ Index(AU)_i = \alpha + \beta_1 \cdot Ideology_i + \beta_2 \cdot Party_i + \beta_3 \cdot PAC_i + \beta_4 \cdot Defense\ Contract_i$$

*Defense Vote Index(AU): the ratio of ‘favorable *legislator i*’s choice toward defense spending’ compared to all other votes in roll call votes in *authorization* process

*Ideology: *legislator i*’s ideological position (Liberal: -1, Conservative:1)

*Party: status of *legislator i*’s party

*PAC: Defense related political action committee’s contribution to *legislator i*’s district

*Defense Contract: the amount of defense contract to *legislator i*’s contract

<Figure 7-2. Model 2: Estimation of defense vote index for Appropriation process>

$$Defense\ Vote\ Index(AP)_i = \alpha + \beta_1 \cdot Ideology_i + \beta_2 \cdot Party_i + \beta_3 \cdot PAC_i + \beta_4 \cdot Defense\ Contract_i$$

*Defense Vote Index(AP): the ratio of ‘favorable *legislator i*’s choice toward defense spending’ compared to all other votes in roll call votes in *appropriation* process

*Ideology: *legislator i*’s ideological position (Liberal: -1, Conservative:1)

*Party: status of *legislator i*’s party

*PAC: Defense related political action committee’s contribution to *legislator i*’s district

*Defense Contract: the amount of defense contract to *legislator i*’s contract

3. Dependent variables

The primary dependent variable is the choice of individual legislators in each roll call vote on an amendment to the defense authorization bills and appropriations bills of the given years. I defined the dependent variable as “% of each representative’s favorable choice to defense spending out of the total roll call votes in a congressional term”. For the dependent variable, I generate an index by calculating the ratio of ‘favorable choice toward defense spending’ compared to all other votes. For example, in the 103rd Congress, there were 20 amendments in the defense authorization bills. If a legislator voted favorably to defense spending in the 12 roll call votes that were determined to be favorable to defense spending, he would be coded as ‘0.6’ in accordance with the ratio of favorable choice (12 choices) to the entire votes

(20 roll call votes) in this term of Congress (the 103rd Congress). This process requires discerning which amendment is favorable to defense spending by analyzing the contents of amendments.

I code an amendment favorable to defense spending as ‘1’ and unfavorable one as ‘0’. Then, I calculate the favorableness of a legislator to defense spending in accordance with this coding and his choices in the roll call votes of a congressional term. I do this for both defense authorization bills and defense appropriation bills of each Congressional term. For analysis, I gather all the amendments to the defense budget bills that had roll call votes on each amendment. After that, I divide the amendments into two budgetary processes of the authorization process and the appropriation process⁵⁴⁹.

When I focus on the passage of an amendment, the number of failed amendments is twice as large as that of passed ones (passed: 121, failed: 206; see table 1). In authorization bills, the number of failed amendments is almost the same as that of passed ones (passed: 109, failed: 106; see table 1). However, in appropriation bills, the failed amendments are five times larger than the passed ones (passed: 15, failed: 97; see table 1). I estimate that this difference between authorization bills and appropriation bills comes from the difference of attributes of two different budget processes – authorization and appropriations.

<Table 7-1: Pass or Fail>

Authorization & appropriation		Authorization		Appropriation	
Pass	Fail	Pass	Fail	Pass	Fail
121	206	106	109	15	97
N= 327		N=215		N=112	

Speaking of the amount of budget changes presented in amendments, there are 185 amendments that did not contain the amount of budget changes (See table 5). Most of them are amendments in authorization bills, and these amendments contained the redefinitions of terms, special requests to the

⁵⁴⁹ Previous literature has focused on “only one congressional term” and “amendments on authorization process.” Instead, my dissertation cover 10 congressional terms from the 103rd to the 113th, and amendments in appropriation process as well as those in authorization process.

Department of Defense or the President, or changes of rules and regulations that were dealing with sensitive budget items⁵⁵⁰.

When analyzing the standard deviations and the distributions of the budget changes, the amounts are so dispersed that it is meaningless to set the average amount and possible boundaries of the expected budget changes.

<Table 7-2. Summary of amendments by amount of budget changes>

	All amendments (n=327)	Authorization (n=215)	Appropriation (n=112)
Amount=0	185	159	26
Min.	0	0	260
Median	0	0	22,020
Mean	725,400	197,000	1,738,000
Max	35,200,000	12,000,000	35,200,000
SD	3,411,390	940,904	5,558,581

Note: the unit is 1,000\$

4. Independent variables

I considered four variables as the independent variables that explain the changes of the dependent variable.

A. Party status

One of the traditional factors that affects voting behavior of members of Congress has been majority party status. When a party has the majority status, the party has a relatively strong influence on its members. In this case, party members are likely to vote in accordance with the intent of their party leadership, and the party status can weaken other factors' influence on the individual legislators' choices.

During the period from 1993 to 2012, the Republican Party had majority status except for the 103rd Congress and the 111th Congress. When checking the difference between the majority party and the

⁵⁵⁰ <http://thomas.loc.gov/home/LegislativeData.php?&n=Record>

minority party, there have been larger differences when the Democratic Party was the majority party. For party status, I code the majority party as ‘1’ or the minority party as ‘0’, regardless of which party is majority.

<Table 7-3: Majority and Minority>

	103 rd	104 th	105 th	106 th	107 th	108 th	109 th	110 th	111 th	112 th
Republican	176	230	228	223	221	229	232	233	178	242
Democrat	258	204	206	211	211	205	201	202	256	193
R-D	-82	26	22	12	10	24	31	31	-78	49

Note: this table was produced on the basis of the beginning of each Congress; Bold & Italic means Majority status.

Source: <http://thomas.loc.gov/home/LegislativeData.php?&n=Record>

(1) Ideology

According to Keith Poole and Howard Rosenthal, the ideology of each member of Congress is the most influential factor that determines voting behaviors of members of Congress (Poole and Rosenthal, 1991). They argue that it is possible to predict the votes of each legislator from their ideological position. For ideology, DW-Nominate scores⁵⁵¹ provide the ideological position of each legislator. Considering the fact that NSVI score reflects each legislator’s general defense view and NSVI (National Security Voting Index) is highly correlated with DW-Nominate scores, a conservative legislator in DW-Nominate score is more likely to vote favorably to defense spending.

(2) PAC Contribution

Each political action committee (PAC) can make contributions to candidates for elections. There are three types of candidates: incumbent candidates, challengers, and competing candidates in open seats. I focus on incumbent candidates who are able to vote in the House of Representatives during each

⁵⁵¹ DW nominate number: <http://voteview.com/dwnominate.asp>

election cycle. Using OLS models mentioned above (model 1, and model 2), I examine how the amount of PAC contributions to a legislator can affect the legislator's voting behaviors in the House.

The data is downloaded from the Federal Election Commission (FEC)'s website. FEC has maintained records on registered political action committees' campaign financial contributions to registered candidates in each election cycle. The record has been filed under the title of "Contribution to Candidates from Committee." I found the records of election cycles related to my research in the database of "Contribution to Candidates from Committee." The data in the records includes the title of political action committees, the amount of money contributed, and the name of recipient.

In order to make a dataset for this independent variable (PAC contribution), I follow three steps. First, I sort out the candidate who has incumbent candidate status qualifying him to participate in roll-call votes. The FEC website offers the data which contains any contribution given to all the candidates who were registered in the FEC⁵⁵². Second, I sort out the political action committees that are categorized as political actions committees of defense industries. I consider the committees mentioned as defense PAC in the website of 'OpenSecret.org'⁵⁵³. I made a report that has a list of the amount of defense contracts that defense industries made with the Department of Defense during each election cycle. I sorted the contracts from the largest to the smallest by election cycles and assigned them to individual industries which made each contract. Based on this result, I calculated the total amount of defense contracts that each industry made with the Department of Defense. I considered the top 250 defense industries in the matter of total defense contract amount.

I also included the affiliate companies of each industry and counted them as the part of each industry. I downloaded a file regarding industry lobbies from 'OpenSecret.org'. The file has the data which covers the time span from 1998 to this year. For the pre-1998 period, I searched [opensecrets.org](http://www.opensecrets.org)

⁵⁵² <http://www.fec.gov/> : Federal Election Commission

⁵⁵³ [Http://www.opensecret.org/](http://www.opensecret.org/)

and got related information about affiliates of each defense industry. After that, I added all the industries that were on the [opensecrets.org](https://www.opensecrets.org) website but not in the report with defense contracts. Then, I searched the PACs of the industries on reports of each election cycle in the defense PAC list. The final product of this process is a list of 250 companies that made contracts with the defense department and the amount of PAC contributions that these companies made during each election cycle. Third, I calculate the total amount of money that a legislator received from political action committees of defense industries by adding the money offered by the committees to each legislator. The product is the amount of PAC contribution that a legislator received from political action committees in defense industries.

(3) Military Contract to Congressional Districts

As I already described, defense authorization bills and appropriation bills deal with the Federal budget— money. In most previous studies, procurement programs and its budget have been the focus (Lindsay, 1990; Higgs, 1988; Twight, 1989, Rundquist, 2002). The reason why procurement programs have been recognized as a core interest is that this is the very area of budget by which a member of Congress can demonstrate her political intent (Rundquist, 2002).

For the amount of defense contract to each district, I obtained the data from the Federal Procurement Data System⁵⁵⁴ for the period from 1993 to 2012. It was a challenging task to extract the amount of defense contract to each congressional district from the data. First, the data set does not have the data field that directly connects defense contracts with congressional districts. Prior to 2003, the data set of ‘Federal Procurement Data System’ did not have the field of Congressional Districts, while the data set has had the field of congressional district since 2003. Furthermore, a significant number of errors exists in the congressional district field even in the data after 2003. The congressional district is not the reliable data field to use in this research. The alternative data field that connects the contract records with congressional district is *postal zip code*.

⁵⁵⁴ <https://www.fpds.gov/fpdsng.cms/> : Federal procurement data system

Second, ‘assigning postal zip codes to congressional districts’ was another challenging task because the US Census does not have the relationship file which connects postal zip codes and congressional districts before the 2000 census. For the 1990’s I used the data of an appendix included in the book of "Congressional Districts in 1990s"⁵⁵⁵ published by the Congressional Quarterly⁵⁵⁶. At the same time, I used the US Census relationship files between postal zip codes and congressional districts for the 2000’s and 2010’s (See Appendix A).

Third, the congressional districts have been redistricted not only in the beginning of a decade but also between the decades due to several reasons. Mostly, redistricting between decades was initiated by ‘the issue of under-representation of minority races’ in the southern states like Louisiana, North Carolina, Florida, Georgia, Texas, and also in Minnesota. The issue of under-representation was caused by massive racial movement from northern states to southern states in the 1980’s. When the 1990’s census was finished, redistricting did not reflect the right portion of representation of minority races and several law suits were filed against state or federal government to make redistricting correct. I found 10 redistricting cases in Georgia (1996, 2006), Florida (1994, 1996), Texas (2004, 2006), North Carolina (2000, 2002), Minnesota(1998), Louisiana(1998, 2000), New York (2000), and Virginia (1998, 2002) since 1993, when the redistricting of the 1990 census took effect. Using "ArcGIS"⁵⁵⁷, I extracted *zip codes - Congressional Districts* relationship files for each congress (See Appendix B).

Fourth, subcontracting in defense industries may decrease the explanatory power of contract data which is based on prime contracts. The literature says that 50% of prime contracts have been subcontracted and the data for the primary place of performance of contracts has been limited by various

⁵⁵⁵ CQ Press, 1993, *Congressional Districts in the 1990s: A portrait of America* (CQ Press: DC)

⁵⁵⁶ There was not a digital media for the book of *Congressional Districts in the 1990s: A portrait of America*. I scanned the appendix of ‘zip code-congressional districts’ and turned it into an editable document. Then, I converted the document into a dataset.

⁵⁵⁷ First, I put the zip-code map over the plain map of the United States. Then, I overlaid the congressional district map of the related Congressional term over the Zip-code & the US map. By geographically matching these three maps, I generated zip-code & congressional district dataset.

reasons⁵⁵⁸. The primary reason is that prime contractors have denied submitting the information regarding subcontracting. However, there is an opposite argument that overall distribution of subcontracts roughly parallels that of prime contracts. Moreover, the political advantage of prime contractor may not be reduced by the fact that much of the work will not be performed by prime contractors because prime contractors have symbolic influence in the area of defense industries⁵⁵⁹. However, considering that distribution of subcontracts roughly parallels that of prime contracts and that my topic is not program specific but dealing with entire defense contracts, it is reasonable to keep using the dataset based on the prime defense contract.

⁵⁵⁸ Ken Mayer 1991 The political economy of defense contracting, chapter 2. pp. 33 - 34

⁵⁵⁹ Ken Mayer 1995 "Electoral Cycles in Federal Government Prime Contract Awards: State-Level Evidence from the 1998 and 1992 Presidential Elections." American Journal of Political Science 39 (No. 1, February 1995) p. 171

Chapter 8. Analysis

1. Examination of Models

In order to examine how factors influence the choice of each legislator in a roll call vote, I estimated a linear regression model in which an index of *a legislator's choice in roll call votes* is a dependent variable and other factors are independent variables -such as ideology, party status, defense contract to their congressional districts, and defense related PAC contributions to each legislators. Due to the fact that authorization process and appropriation process are different from each other in several aspects⁵⁶⁰, I developed separate models for each congressional budgetary process (model 1 for authorization process and model 2 for appropriation process).

<Table 8-1: Result of Linear Regression Model: Authorization bills only, entire period>

n=4266	Estimate	Pr(> t)
(Intercept)	0.546	$< 2 \times 10^{-16}$ ***
Defense Contracts ★dollarsum (\$ 100 billion)	0.187	0.3375
PAC Contribution ★cnsum (\$ 100 thousand)	0.101	4.20×10^{-12} ***
Ideology ★dwnom1	0.140	3.36×10^{-9} ***
Party ★party1	-0.0256	0.0844 .
Ideology:Party ★dwnom1:party1	-0.322	$< 2 \times 10^{-16}$ ***

Note: *** >0.001, **>0.01, *>0.05 ; ★ variable names in database

In authorization process, the result shows that the PAC contribution (cnsum) and the Ideology of each legislator (dwnom1) are the two primary factors that lead each legislator to vote favorably to defense spending. Both factors show positive numbers: the PAC contribution has 0.101 as the coefficient, and the ideology of each legislator has 0.140 as the coefficient. Besides, within the majority party, the ideology of

⁵⁶⁰ See previous chapter and literature review.

the majority party members has a negative relationship with their favorable voting behaviors to defense spending (see table 8-1. “Ideology:Party”). The interaction variable between ideology and majority party status has -0.322 as the coefficient.

<Table 8-2: Result of Logistic Models: Appropriation bills only>

n=3835	Estimate	Pr(> t)	
(Intercept)	0.546	$< 2 \times 10^{-16}$	***
Defense Contracts ★dollarsum (\$ 100 billion)	-0.366	0.007179	**
PAC Contribution ★cnsum (\$ 100 thousand)	-0.0129	0.196976	
Ideology ★dwnom1	0.438	$< 2 \times 10^{-16}$	***
Party ★party1	0.00915	0.37346	
Ideology:Party ★dwnom1:party1	0.0732	0.000674	***

Note: *** >0.000, **>0.001, *>0.05; ★ variable names in database

In appropriation process, the result shows that the military contract to districts (dollarsum) and the Ideology of each legislator (dwnom1) are the two primary factors that influence each legislator’s votes on defense spending favorably or unfavorably. The military contract to districts shows a negative coefficient, while the ideology of each legislator has a positive one as in the authorization process: the military contract to districts has -0.366 as the coefficient, and the ideology of each legislator has 0.438 as the coefficient. The ideology of each legislator shows a positive effect on House members’ favorableness to defense spending with the highest level of statistical significance (***: > 0.000). In addition, within the majority party, the ideology of the majority party members has a positive relationship to their favorable voting behaviors to defense spending (see table 8-2. “Ideology:Party”). The interaction variable between ideology and majority party status has 0.0732 as the coefficient.

2. Party Status

Majority party member is more likely to vote favorably to defense spending (hypothesis 1).

Considering that the majority party's influence on related committee and committee's favorable inclination to defense spending, I predicted a positive relationship between majority party and party members' favorableness to defense spending, and I developed hypothesis 1. Nonetheless, when I estimate model 1 with the dataset for authorization process, majority party status does not show a positive effect on the favorableness of legislators to defense spending. Furthermore, its statistical significance is below 0.05. The estimation result does not support hypothesis 1 in the case of authorization process. This result comes from the fact that the amendments to authorization bills are mostly about increase of defense spending, and both majority and minority parties are supportive and have a generous position to amendments to increase defense spending in authorization process (see the data section in Chapter 6). These facts reduce the effect of majority party and bring a negative effect as well as decrease the statistical significance of the majority party's influence.

Within the majority party, the ideology of the majority party members has negative relationship with their favorable voting behaviors to defense spending (see table 8-1. "Ideology:Party") in authorization process. The interaction variable between ideology and majority party status has -0.322 as the coefficient. This negative relationship has two interpretations depending on the members' ideological position – whether they are liberal or conservative. When a legislator has a positive value of ideology, the result shows that 'as a legislator of a majority party has more conservative ideology (>0), the legislator is less likely to vote in favor of defense spending in roll call votes on amendment to annual authorization bills'. On the other hand, when a legislator has a negative value of ideology, the result shows that 'as a legislator of a majority party has more liberal ideology (<0), the legislator is more likely to vote in favor of defense spending in roll call votes on amendments to annual authorization bills'.

When I estimate model 2 with the dataset for appropriation process, the majority party status shows positive effect on the favorableness of legislators to defense spending. Nonetheless, its statistical significance is below 0.05. The estimation result does not support hypothesis 1 in the case of appropriation process, even though it has a positive effect. This result comes from the fact that the

amendments to appropriation bills are mostly about decrease of defense spending and neither majority nor minority party are supportive to the amendments to decrease defense spending in appropriation process. Both parties negatively respond to the unfavorable amendments to defense spending in appropriation process (see the data section in Ch. 6). These facts increase the effect of majority party and brings a positive effect even though the statistical significance of majority party's influence is not strong enough.

Within the majority party, the ideology of the majority party members has positive relationship with their favorable voting behaviors to defense spending in appropriation process (see table 8-2. "Ideology:Party"). The interaction variable between ideology and majority party status has 0.0732 as the coefficient. This positive relationship has two interpretations depending on the members' ideological position – whether they are liberal or conservative. When a legislator has a positive value of ideology, the result shows that 'as a legislator of a majority party has more conservative ideology (>0), the legislator is more likely to vote in favor of defense spending in roll call votes on amendment to annual appropriation bills'. On the other hand, when a legislator has a negative value of ideology, the result shows that 'as a legislator of a majority party has more liberal ideology (<0), the legislator is less likely to vote in favor of defense spending in roll call votes on amendment to annual appropriation bills'. It means that the ideology of each legislator has more stable effect in the appropriation process than it has in authorization process. This is opposite to the result from the estimation result for the authorization process.

3. Ideology

If a legislator is more conservative, the legislator is more likely to vote favorable to defense spending (hypothesis 2).

Considering that conservative ideology generally coincides with favorableness to defense spending, I predicted a positive relationship between conservative ideology and legislators' favorableness to defense spending and developed hypothesis 2. When I estimate model 1 with the dataset for authorization process, the legislators' ideological position shows a positive effect on the favorableness of

legislators to defense spending (coefficient: 0.140). Furthermore, its statistical significance is beyond 0.0005 (***, >0. 00). The estimation result supports hypothesis 2 in the case of authorization process. The result means that ‘as a legislator *has more conservative ideology*, the legislator *is more likely to vote in favor of defense spending* in roll call votes on amendment to annual authorization bills’.

When I estimate model 2 with the dataset for appropriation process, the legislators’ ideological position shows a positive effect on the favorableness of legislators to defense spending (coefficient: 0.438). Furthermore, its statistical significance is beyond 0.0005 (***, >0. 00). The estimation result supports hypothesis 2 in the case of authorization process. The result means that ‘as a legislator *has more conservative ideology*, the legislator *is more likely to vote in favor of defense spending* in roll call votes on amendment to annual appropriation bills’.

Consequently, in both authorization and appropriation process, the legislators’ conservative ideology have a positive relationship with legislators’ favorableness to defense spending, and the results support hypothesis 2. In addition, the effect of conservative ideology on favorableness to defense spending in appropriation process is stronger than in authorization process (authorization: 0.140 < appropriation: 0.438).

4. Military Contracts to Congressional Districts

As a congressional district receives more defense contracts, the legislator elected from the congressional district is more likely to vote favorably to defense spending (Hypothesis 3).

A legislator makes efforts to bring more economic benefit to his congressional district. Furthermore, when a congressional district has an economic connection with defense industries, the legislator of the district is favorable to increases in defense spending. Based on these assumptions, I predicted a positive relationship between annual amount of defense contracts to congressional districts

and legislators' favorableness to defense spending, and I developed hypothesis 3. When I estimate model 1 with the dataset for authorization process, the defense contract to congressional districts shows a positive effect on the favorableness of legislators to defense spending (coefficient: 0.187). However, its statistical significance is below 0.05 (0.3375). The estimation result does not support hypothesis 3 in the case of authorization process even though the variable has a positive effect on the dependent variable. The result comes from two facts: first, subcontract practice in defense industries⁵⁶¹ might reduce the effect of amount of prime contract to a congressional district; second, congressional district is not an economic community but a political community that is based on population, which means economic factors might cross over the boundary of congressional districts rather than being contained within the boundary.

When I estimate model 2 with the dataset for appropriation process, the defense contract to congressional districts shows a negative effect on the favorableness of legislators to defense spending (coefficient: -0.366). However, its statistical significance is beyond 0.001 (**, >0.001). The estimation result does not support hypothesis 3 in case of appropriation process even though the variable has a strong statistical significance. In appropriation process, the result means that 'as a legislator's congressional district *receives more military related contracts from the Department of Defense*, which bring economic benefit to districts, the legislator is *less likely to vote in favor of defense spending* in roll call votes on amendment to annual appropriation bill'. This result comes from two facts: first, legislators are more concerned about specific interests for their congressional districts than about the general defense spending in appropriation process; second, the amendments to annual appropriation bills are mostly about specific items such as JSF F-35's second engine or V-22 Osprey.

⁵⁶¹ In defense industries, prime contractors make subcontracts with other small companies which are located outside congressional districts or states where prime contracts are located.

5. PAC Contribution

As a legislator receives more PAC contributions from defense corporations, the legislator is more likely to vote favorably to defense spending (Hypothesis 2-4).

Defense industries contribute donations to a legislator who has economic ties with their defense contracts in order to guarantee investment from the department of defense, and the legislator who has his district's economic interests with defense industries supports increases in defense spending. Based on these assumptions, I predicted a positive relationship between PAC contribution from defense industries and legislators' favorableness to defense spending, and I developed hypothesis 4. When I estimate model 1 with the dataset for authorization process, the PAC contribution from defense industries shows a positive effect on the favorableness of legislators to defense spending (coefficient: 0.101). Furthermore, its statistical significance is beyond 0.0005 (***, >0.00). The estimation result supports hypothesis 3 in the case of authorization process. The result means that, in authorization process, 'as a legislator *receives more contribution from the Political Action Committees* which have connection with defense industries, the legislator is *more likely to vote in favor of defense spending* in roll call votes on amendments to annual authorization bills'. This result confirms hypothesis 4.

On the other hand, when I estimate model 2 with the dataset for appropriation process, the PAC contribution from defense industries shows a negative effect on the favorableness of legislators to defense spending (coefficient: -0.0129). Furthermore, its statistical significance is below 0.05. The estimation result does not support hypothesis 4 in the case of appropriation process. This result comes from the fact that amendments to annual appropriations bills are mostly about cutting of defense spending and are closely related to specific items. This fact reduces the effect of *generalized* PAC contributions⁵⁶² on favorableness to defense spending.

⁵⁶² The data I used is neither item centered nor company specific. I considered the total amount of PAC contribution from all defense industries to a legislator as a variable.

6. Term based analysis

I also divided the period of research by each congressional term, and examined the effect of the factors for each congressional term. Considering the fact that House members are representatives from congressional districts and they are chosen by elections, election is an important factor to connect constituents and House members. Furthermore, PAC contributions are intended to influence elections, and legislators are eager to bring as much benefit as possible to their districts in order to be re-elected. Consequently, it is necessary to consider examining the effect of *PAC contributions* and *military contract to districts* on legislators' voting behavior by congressional terms.

<Table 8-3: Result of Linear Regression Model: Authorization bills only, Term by Term>

	103	104	105	106	107	108	109	110	111	112
(Intercept)	0.616 ***	0.573 ***	0.872 ***	0.915 ***	0.778 ***	0.208 ***	1.13 ***	0.403 ***	0.915 ***	0.340 ***
Defense Contracts ★dollarsum (\$ 100 billion)	0.129	0.0335	0.733	-0.791	-0.125	-0.397	-0.575 *	-0.281	0.135	-0.0729
PAC Contribution ★cnsum (\$ 100 thousand)	0.160 ***	0.196 ***	0.210 ***	0.134 **	0.0397	0.0718 *	0.0328	0.0649 **	0.0528 .	0.0152
Ideology ★dwnom1	0.187 **	0.591 ***	0.990 ***	0.115 ***	0.902 ***	0.446 ***	1.09 ***	0.714 ***	-0.382 **	0.263 **
Party ★party1	-0.0627 .	0.0566	-0.166 *	-0.163 *	0.00134 .	0.534 ***	-0.150 *	0.215 ***	-0.631 ***	0.482 ***
Ideology:Party ★ dwnom1:party1	0.448 ***	-0.297 *	-0.857 ***	-0.109 ***	-0.930 ***	-0.192	-1.15 ***	-0.419 ***	0.707 ***	-0.583 ***
	n=429	n=437	n=435	n=431	n=409	n=425	n=430	n=437	n=435	n=398

Note: ***>0.000, **>0.001, *>0.05; ★ variable names in database

In order to examine how these two factors – the effect of PAC contribution and military contract to congressional districts – influence legislators' favorableness to defense spending in a congressional term, I estimated the same model (Figure 7-1, p) with dataset of each congressional term.

In the case of PAC contributions, all congressional terms have positive coefficients which range from 0.0152 (min.: the 112th Congress) to 0.210 (max.: the 105th Congress). Except for four terms, the 107th, 109th, 111th, and 112th Congress, coefficients of the PAC contribution show statistical significance

beyond level of 0.05. It means that more PAC contribution to a legislator lead the legislator to vote in favor of defense in a congressional term, a fact proved with statistical significance in six out of ten congressional terms.

For military contracts to districts, the coefficients show that the variable has a negative effect in six out of ten congressional terms and a positive effect in four congressional terms. Furthermore, the coefficients do not have a statistical significance of 0.05 except for the 109th Congress. It means that the military contracts to districts do not have a stable effect on legislators' favorableness to defense spending in a congressional term and the effect also cannot be considered statistically significant.

As I did for authorization process, I also examined the effect of the factors for each congressional term due to the fact that PAC contribution and military contract to congressional district were related to the election cycle which was the same as the congressional terms. In order to examine how these two factors – the effect of PAC contribution and military contract to congressional districts – influence legislators' favorableness to defense spending in a congressional term, I estimated the model (Figure 7-2, p.) with dataset of each congressional term.

<Table 8-4: Result of Linear Regression Model: Appropriations bills only, Term by Term>

	103	104	105	107	108	109	110	111	112
(Intercept)	0.626 ***	0.634 ***	0.727 ***	0.552 ***	-0.00810	0.696 ***	0.574 ***	1.25 ***	0.709 ***
Defense Contracts ★dollarsum (\$ 100 billion)	-1.78	0.000924	1.14	0.262	-0.0119	0.0811	-0.138	0.103	0.0759
PAC Contribution ★cnsum (\$ 100 thousand)	0.363 ***	0.247 ***	0.379 ***	-0.0707	-0.0005	0.0866 **	0.0451 *	0.0488	0.0449 ***
Ideology ★dwnom1	0.302 .	0.884 ***	1.08 ***	-0.680 **	-0.341	-0.215	-0.326 ***	-1.09 ***	0.482 ***
Party ★party1	0.114	-0.0731	-0.293 **	0.00272	0.00848	0.645 ***	0.321 ***	-0.479 ***	0.00683
Ideology:Party ★dwnom1:party1	0.835 ***	-0.604 ***	-0.622 **	0.175	0.0340	-0.977 ***	-0.757 ***	1.05 ***	-0.869 ***
	n=429	n=437	n=435	n=409	n=425	n=430	n=437	n=435	n=398

Note: ***>0.001, **>0.01, *>0.05; ★ variable names in database

In the case of the PAC contribution, all congressional terms except for the 107th and 108th Congress have positive coefficients which range from 0.0449 (min.: the 112th Congress) to 0.363 (max.: the 103th Congress). Except for three congress terms, the 107th, 108th, and 111th Congress, coefficients of the PAC contribution show statistical significance beyond level of 0.05. It means that, in appropriation process, more PAC contributions to a legislator lead the legislator to vote in favor of defense in seven out of nine congressional terms, a fact proved with statistical significance in six out of nine congressional terms.

For military contract to districts, the coefficients show that the variable has a positive effect in six out of nine congressional terms and a negative effect in the other three congressional terms. Furthermore, the coefficients do not have statistical significance of 0.05 throughout all the congressional terms. It means that even though the military contracts to districts have a positive effect on legislators' favorableness to defense spending in appropriation process, the variable does not have a stable effect on legislators' favorableness to defense spending in a congressional term and the effect also cannot be considered statistically significant.

Chapter 9. Conclusion

Defense policy deals with two fronts – external and internal fronts. Defense policies dealing with the external front search for source of threats and develop military strategies, doctrines and technologies to respond to the external threats. These tasks are purely the jobs of professional soldiers, who are responsible for developing their own ways to fight against threats. Moreover, the professional soldiers do not need to negotiate with their principals while dealing with external threats. What they need to do is find a logic that can persuade their principals such as citizens, the President, and members of Congress. This is the core of military professionalism.

Nonetheless, when it comes to building up the foundation of defense policy, the story is quite different from dealing with foreign threats. Considering the fact that the foundation of defense policy comes from inside the United States, military institutions have to meet the challenge of the internal front on the way to building up military institutions' capabilities to perform their institutional role, which is to protect their societies.

Building up the foundations of defense policy are purely political tasks that require promoting public support, making contracts with industries, and mostly, persuading the Congress and the President. These are the core tasks in civil-military relations. Defense policies for the internal front seek to create favorable political environments, public climates and economic conditions within the society in order to build up the necessary military capabilities such as *effective weapon systems, high quality human resources, and cohesive, sustainable, and well-functioning organization*.

The armed forces are maintained in two ways –in both the military way and the militaristic way. The very nature of armed forces – including organization, size, technologies and dispositions – is determined by multiple factors such as political structure and situation, economic conditions of the country, level and quality of the threat in the security environment, disposition and support of the people, expectations of allies, strategic culture of the nation-state, culture of the individual services and

technologies available at a given time. It means that any military has some features of military way which are ‘scientific and related to military functions’ and ‘other features of militaristic way’ which are too much distracted by aspects other than true military purpose. In this sense, every nation which has its own military has specific features of militarism, regardless of how dominant these features are over other parts of the society. In general, features of militaristic ways are evidenced by “ceremonial appurtenance”, “anti-revolutionary”, “conservative ideology”, “imaginary individualism”.

The U.S. has its own type of militarism in the military and the society. In the United States, there is a belief that the US military should be number one in the world. Moreover, the belief is further extended in the idea that the U.S. Military can be an asset that promotes peace and prosperity in the world, and the use of force can be justified by good causes such as democracy and human rights. It has been reflected in several poll results asking the US public about the US military. This American public belief takes various shapes of military imperatives which connect every part of society with military and lead them to cooperate and support the realization of these imperatives. First, the belief asks the society to maintain military superiority in every possible environment and circumstance on planet earth. Second, the belief asks the society to maintain the industrial bases that produce the weapons and technologies required for military superiority. Third, the belief asks the society to advance military science and technology, in order to produce the next Revolution in Military affairs. Fourth, the belief asks the society to maintain a professional *All Volunteer Force* which is not dependent on conscription or draft. Fifth, the belief asks the society to secure the United States of America without wars in the mainland continent. All these military imperatives asks each part of American society to participate in shaping American military forces.

Military transformation in the post-Cold War era is an example that shows how American militarism works in American society. Considering that Military Transformation is a defense policy to change the shape of the military into an ideal shape, the final products of the military transformation are changes and developments in organization, weapons and equipment, and military doctrines. It is the budget - defense budget - that brings all these changes and developments into reality. In a democratic

society, public opinion is a significant source of influence on policy. If the public opinion on defense spending is positive, the defense budget is likely to increase.

When I examined the effect of three factors – such as public opinion, the Global War on Terror, and the federal deficit – on the defense budget during the post-Cold War era, public opinion and the Global War on Terror showed a positive relationship with defense spending. According to the result of analysis in chapter 3, public opinion showed a positive and significant correlation with defense spending. However, public opinion's influence is likely to increase in accordance with the intensity of external threats and changes of external environment. Public opinion has more impact in the period of transition from war to peace or peace to war than in the period of a continuing state of war such as the Cold War period. Moreover, considering the fact that the post-Cold War era and the era of the Global War on Terror are relatively shorter than that of the Cold War era, it can be concluded that public opinion is more influential in the case of short durations of external factors.

Within the US military, American Militarism has led the Department of Defense and military services to competition against the Soviet Union during the Cold War era and endless preparation for a future adversary in the situation of strategic uncertainty after the Cold War era. This trend of preparation for the future has been sustained even while the US military was engaging in two theater-level military operations in the Middle East after the attack of September 11. In order to maintain the top position in military affairs, the department of defense and military services have brought new concepts of war fighting and have developed weapon systems and military doctrines that realize the new concepts of war fighting. These efforts have been best embodied in the continuing pursuit of military transformation since the Second World War ended.

The US military transformation during the post-Cold War era was the attempt to transform the US military – including the military strategy, doctrine, force structure, and weapon systems – after the demise of the Soviet Union. The military transformation was based on the idea of Revolution in Military

Affairs, which focuses on applying revolutionary advance of information technologies of the 1990's into the military sphere. It has been the core defense policy objective of the Department of Defense for longer than 20 years, from 1992 to 2014.

It started with the Base Force Plan in the National Military Strategy published in 1992. The Base Force Plan was the force structure that was required to be maintained in order to conduct two major regional contingencies scenarios. The report of the Bottom-Up Review in 1994 assessed the validity of the Base Force Plan. While the report of the Bottom-Up Review agreed with the two-MRC scenario as the logic of the force planning construct, it also suggested further reducing the size of forces and adjusting the force modernization plan to the changing security environment. The report of the Bottom-Up Review included initiation of new R&D projects to equip the military forces as well as cancellation of unnecessary force modernization programs. Since 1997, the Department of Defense has published the report of the Quadrennial Defense Review every four years. These five Quadrennial Defense Review Reports contain the core contents of the military transformation. In the QDR 1997, the military transformation was presented as the vision plan of the Department of Defense and the military services. Through the QDR 2001 and 2006, the military transformation was changed into the major policy objective, with a specific time frame and clear goals to be achieved. As the wars in Southwest Asia wound down into the ending phase and the fiscal situation was aggravated, the priority of defense policy was moved from the military transformation into the rebalance of forces in the QDR 2010 and QDR 2014. In addition, as the time for the military transformation comes due, the Department of Defense and the services have been trying to search new concepts for another military transformation in the name of the Evolution of Forces and the Innovation & Adaptation of Forces in the QDR 2010 and QDR 2014.

Defense related industries have strongly supported the military's effort to be number one in military affairs. Defense industries have invested enormous amount of money in research and development of advanced military technologies and weapon systems. In return, the US military has purchased them and encouraged defense industries to keep investing in Research and Development, even

when these technologies were not sophisticated enough and incomplete. In this sense, the relationship between military and industries has been symbiotic rather than simple vendor/buyer relationship. When the US government planned a large scale build-down of armed forces after the Cold War, one of the main concerns was how to preserve the capabilities of producing military equipment and how to save industrial bases which enabled the US military to keep military superiority during the Cold War period.

It is an inevitable fact that the United States industrial bases were the essential foundation of the US military power and a driving force for the United States to win the Cold War. During the Cold War, the Military-Industry-Congress complex was an indispensable option to maintaining military superiority to the Soviet Union and the WARSAW Pact. This concrete complex of the Military-Industry-Congress was starting to be reconsidered, as economic conditions worsened in the 1980's. Defense industries were put in a situation in which they should choose one of two options – abandoning the production line, or finding other ways to survive the crisis after the Cold War. Congress could not simply choose an ideal option that fitted economic conditions – closing the production line –, because defense industries were a significant issue to senators and representatives from the states or districts whose local economies were closely tied to companies within defense industries.

When this Military-Industry-Congress complex was about to collapse, the Department of Defense requested the defense industries to pursue consolidation between companies. Furthermore, the Department of Defense and Congress worked together to lower the bars of restrictions on defense related technologies, which were banned to be released to the free market during the Cold War. Congress built legislative grounds to release the ban on dual-use technologies which were able to be used in civilian businesses. The Department of Defense offered practical guidelines to discern between critical military technologies and dual-use technologies.

In this situation, the military transformation based on the network-centric warfare offered three areas of business to defense industries such as development of new platforms and nodes, modification of

traditional platforms, and network systems to connect these nodes and platforms. These were valuable opportunities for defense industries to survive the serious crisis in the early 1990's, and for the United States government to maintain industrial bases for national defense. The F-35 JSF program clearly showed the relationship between defense industries and the military transformation.

When the Cold War ended, the economy rather than security started to drive defense industries and weapon development programs. The services began to initiate weapon development programs jointly. When the Navy proposed the A-X/ A/F-X program to replace A-6, the Air Force participated in the development program in order to replace F-111. Moreover, the economic environment in the early 1990's did not allow the services to proceed to develop all these jet fighter programs. Furthermore, the security environment did not offer specific reasons to develop all legacy jet fighters or to replace outdated weapon systems. However, the US government had to maintain the industrial bases that produced military equipment during the Cold War era, because the United States still needed to maintain the military forces which could engage globally and these industrial bases were also critical economic bases to the US national economy.

The Department of Defense recommendation was that defense industries consolidate companies and merge into several representative companies within similar industry fields. Sixteen aircraft manufacturing companies were merged into five companies at the end of the 1990's. Furthermore, the Department of Defense canceled similar defense programs and merged them into fewer representative programs. In order to save the merged programs, the Department of Defense put the programs into the Research and Development phase and encouraged foreign governments and defense industries to participate in these programs.

The JSF F-35 program is one of the examples that show the connections between defense industries, the US military and Congress. These connections led the JSF F-35 program to American Militarism, which can be featured as 'overly ambitious,' 'not efficient,' and 'not reasonable.' There are

five evidences which show that American Militarism has influenced the development of the Joint Strike Fighter. First, the purchasers – Congress and the Department of Defense – have not exercised the proper authority over the merchandiser – Lockheed Martin and its associates –, even though there have been significant flaws in the program. Second, the program did not satisfy the requirements of the final consumers - the Air Force, the Navy and the Marine Corps. Within the Air Force, pilots requested buying more F-22s rather than developing the F-35, and the Navy has kept insisting that F-18 E/F would be a better choice than the JSF. Third, saving the industrial base and keeping it competitive in the international markets has been a critical interest of the U.S. Government, and it was the environment in which the JSF program began.

Fourth and finally, the title “the fifth generation” did not come from any services of the US military. The title was the catch-phrase of Lockheed Martin to sell F-35 to customers, including the US military and other foreign partners. What the services used to describe a new jet fighter had been ‘a next generation’ jet fighter. The US military had not numbered the generation of the jet fighter program before the development of F-35. What the Services did was to develop a next generation jet fighter to defeat enemies’ current jet fighters. Originally, the title came from Russia, who tried to sell its new jet fighter in the market in the late 1990’s. The Russian Weapon Corporation started to use the title “fifth generation” jetfighter and the term was widely accepted throughout the international jet fighter market. The Lockheed Martin Corporation used this term as a catchphrase for the new jet fighter which eventually would replace the legacy jet fighters such as F-16, F-18, A-6, and AV-8. Now, the Department of Defense, Congress and military services are using the term “fifth generation jet fighter” to describe a family of advanced jet fighters. It means that the US government bought the catch phrase of the fifth generation jet fighter and gave it the meaning of advanced jet fighter.

In the political arena, Congress has been the main source of influence on military affairs. Even though foreign policy and use of force have been primarily under the influence of the executive branches such as the White House and Department of Defense, Congress has the authoritative power of funding

military programs and governmental oversight regarding military and defense policy. Furthermore, issues in military affairs are under the jurisdiction of the Armed Services Committees in both chambers of Congress. Most members of both committees have the experience of military service and come from regions which are connected with the military in aspects of demography or regional economy. These attributes of committee members guarantee proper representation of regional interests and position of military services, while they also lead committee members' decisions to be distracted by other issues such as regional economy and inter-service rivalry, rather than effectiveness of military forces, which also can be considered signs of militarism.

Congressional hearings on the official DOD documents regarding military transformation is one indicator to read the congressional response to the military transformation. The Base Force Plan was evaluated as a "very strategy driven" document in the aspects of force structure and supporting capability for the force structure. The committee members understood the security environment of the post-Cold War era and the strategy to deal with it in the big picture of national defense policy. During the hearing on the report of the Bottom - Up Review in the House, almost every member of the House Armed Services Committee did not support the Bottom-Up Review. The criticism was that: the report was budget driven; the force structure did not match the strategy; it was based on a higher level of risk than the Department assumed; and it did not show a clear picture of how to prepare for the future.

Differing from the report of the Bottom-Up Review, the QDR 1997 had a clearer vision for the future, contained in *Joint Vision 2010* and the military transformation. By connecting these two vision plans with other issues, DOD satisfactorily defended the QDR 1997 and defense programs, and persuaded the committee to approve the policy directions in the QDR 1997. In 2001, even though the focus of discussion was tilted to the response in the Senate to the September 11 attack, the Senate Armed Services Committee found that the military transformation also included policy initiatives to prevent asymmetrical and irregular threats from terrorists and confirmed that the military transformation was headed in the right direction, as the House Armed Services Committee had confirmed before the September 11 attack. Even

though several items are directly addressing the follow-up responses to the September 11 attack, testimonies of witnesses in both hearings and the QDR 2001 itself show a solid consistency in the policy regarding military transformation. The hearings on the QDR 2006 covered two main issues: the military transformation and the Global War on Terror. The focus of the hearings was how to balance between these two issues under the situation of resource constraint, rather than abandoning either. Differing from the hearings on previous QDRs, the military transformation was not the focus of the hearings on QDR 2010. Even though the items related to the military transformation were covered and discussed during the hearings, the primary concern was how to manage the defense program under the budget constraint. Committee members of both chambers examined the situation of the growing federal deficit and its impact on defense programs including various weapon systems which were part of the military transformations. In sum, both committees responded positively to the military transformation and showed the tendency to support strategy driven plans – the Base Force Plan, the QDR 1997, 2001, 2006 –, which presented a blueprint for the coming years and guaranteed more investment in Research and Development, while criticizing the report of the Bottom-Up Review and the QDR 2010 as budget driven plans.

The composition of committees is another indicator that predicts possible legislative outcomes in a policy jurisdiction in Congress. Members of a congressional committee are likely to be most interested in the related policy area as well as to be considered as professionals among members of Congress. In this case, the committee can lead the legislative process to the preference of the committee and can draft a bill that appropriately reflects the preference of the committee. Since the ideology of legislators is an important factor in legislative voting and the fate of a roll call vote in House is determined by a simple majority, it is possible to measure the ideological composition of committees and further to predict possible legislative outcomes. During the period, the median voter of committee members is more conservative than the median voter of House members, except for the 108th, 109th, and 112th Congress; the median voter of committee Republicans is more conservative than the median voter of House

Republicans, except for the 110th and 112th Congress; the median voter of committee Democrats is more conservative than the median voter of House Democrats. Considering the fact that conservative ideology coincided with an increase in defense spending, in most cases the House Armed Service Committee members/Republicans/Democrats are likely to act or vote more favorably to defense spending than the non-committee House members/Republicans/Democrats do, respectively.

When comparing Democrats and Republicans, the Democratic Party has wider gaps of median values between the House and the House Armed Services Committee than the Republican Party does. It means that the Democratic members of the House Armed Services Committee are likely to pursue their own position rather than representing their party in the matter of defense policy, while Republican members of the House Armed Services Committee are likely to represent their party with slightly more conservative legislative products.

In summary, militarism is a type of ideology that gives more value to military ideas than to civilian life. In general, militarism coincides with conservatism and individualism. Considering the political environment inside Congress and the public mood reflected in public opinion, it is highly probable that there has been a unique type of militarism in the United States. In the political arena, the congressional committee which is responsible for national defense seems inclined to be conservative in the matter of ideology – more conservative than the median in the House of Representatives. Speaking of public opinion, the US public has shown a relatively high level of confidence in the military compared to other public service organizations. The Gallup polls asking about public confidence in the military since the year 2001 have shown that the US public has maintained their support for their military, even after the twelve years of military engagement in Iraq and Afghanistan. The level of public support to the military has positively influenced defense budget increases.

However, these arguments do not explain what happens in each congressional district but rather what happens at the national level due to the following reasons. First, the committee does not represent

the choices of each member of the House of Representatives. Second, the participants in the polls in the previous chapter do not represent the position of each congressional district's constituents. Both the ideological composition of the committee and polls at the national level are not the proper units of analysis to examine the effect.

As the result of the pilot study and literature review, I found that traditional factors – such as party, ideology, committee, and other budget-related factors – can explain the fate of amendments in the congressional budgetary process, and the authorization process and the appropriations process are quite different from each other in the aspects of vote result and voting patterns. On top of these results, I attempted to analyze which attributes of each House member determine the choice in roll call votes regarding defense budget and how differently each House member votes in authorization process as compared to appropriations process. In order to examine how factors influence the choice of each legislator in a roll call vote, I estimated a linear regression model in which an index of *a legislator's choice in roll call votes* is a dependent variable and other factors are independent variables – such as ideology, party status, defense contract to their congressional districts, and defense related PAC contributions to each legislator. Due to the fact that the authorization process and the appropriation process are different from each other in several aspects, I developed separate models for each congressional budgetary process.

In the authorization process, the result shows that the PAC contribution (cnsum) and the ideology of each legislator (dwnom1) are the two primary factors that lead each legislator to vote favorably to defense spending. Both factors show positive numbers: the PAC contribution has 1.01×10^{-6} as the coefficient, and the ideology of each legislator has 1.40×10^{-1} as the coefficient. In the appropriation process, the result shows that the military contract to districts (dollarsum) and the ideology of each legislator (dwnom1) are the two primary factors that favorably or unfavorably influence each legislator's votes on defense spending. The military contract to districts shows a negative coefficient, while the ideology of each legislator has a positive one as it has in the authorization process: the military contract to

districts has -3.66×10^{-12} as the coefficient, and the ideology of each legislator has 4.38×10^{-1} as the coefficient. The ideology of each legislator shows a positive effect on House members' favorableness to defense spending with the highest level of statistical significance (***: > 0.000).

Considering that the majority party's influence on the related committee and the committee's favorable inclination to defense spending, I predicted a positive relationship between majority party and party members' favorableness to defense spending. In the authorization process, majority party status does not show a positive effect on the favorableness of legislators to defense spending. In the appropriation process, majority party status shows positive effect on the favorableness of legislators to defense spending. Nonetheless, its statistical significance is below 0.05 in both authorization and appropriation process. This result comes from the fact that the amendments to authorization bills are mostly about increase of defense spending, and both majority and minority parties are supportive and have a generous position to amendments to increase defense spending in the authorization process. Moreover, the amendments to appropriation bills are mostly about decrease of defense spending, and neither majority nor minority party are supportive of amendments to decrease defense spending in the appropriation process.

Considering that conservative ideology generally coincides with favorableness to defense spending, I predicted a positive relationship between conservative ideology and legislators' favorableness to defense spending. In both authorization and appropriation process, the legislators' conservative ideology has a positive relationship with legislators' favorableness to defense spending with statistical significance. In addition, the effect of conservative ideology on favorableness to defense spending in the appropriation process is stronger than in the authorization process (authorization: 1.40×10^{-1} ; appropriation: 4.38×10^{-1}).

A legislator works to bring more economic benefit to his congressional district. Furthermore, when a congressional district has an economic connection with defense industries, the legislator of the

district is favorable to increases in defense spending. Based on these assumptions, I predicted a positive relationship between annual amount of defense contracts to congressional districts and legislators' favorableness to defense spending. In the authorization process, the defense contract to congressional districts shows a positive effect on the favorableness of legislators to defense spending (coefficient: 1.87×10^{-12}). However, its statistical significance is below 0.05 (0.3375). The result comes from two facts: first, subcontract practice in defense industries might reduce the effect of the amount of prime contract to a congressional district; second, the congressional district is not an economic community but a political community that is based on population, which means economic factors might cross over the boundary of congressional districts rather than being contained within the boundary.

In the appropriation process, the defense contract to congressional districts shows a negative effect on the favorableness of legislators to defense spending (coefficient: -3.66×10^{-12}). However, its statistical significance is beyond 0.001 (**, >0.001). The estimation result does not support hypothesis 3 in the case of the appropriation process even though the variable has a strong statistical significance. In the appropriation process, the result means that 'as a legislator's congressional district *receives more military related contracts from the Department of Defense*, which bring economic benefit to districts, the legislator is *less likely to vote in favor of defense spending* in roll call votes on amendments to the annual appropriation bill'. This result comes from two facts: first, legislators are more concerned about specific interests for their congressional districts than about the general defense spending in the appropriation process; second, the amendments to annual appropriation bills are mostly about specific items such as JSF F-35's second engine or V-22 Osprey.

Defense industries contribute donations to a legislator who has economic ties with their defense contracts in order to guarantee investment from the department of defense, and the legislator who has his district's economic interests with defense industries supports increases in defense spending. Based on these assumptions, I predicted a positive relationship between PAC contribution from defense industries and legislators' favorableness to defense spending. In the authorization process, the PAC contribution

from defense industries shows a positive effect on the favorableness of legislators to defense spending (coefficient: 1.01×10^{-6}). Furthermore, its statistical significance is beyond 0.0005 (***, >0.00). In the appropriation process, the PAC contribution from defense industries shows a negative effect on the favorableness of legislators to defense spending (coefficient: -1.29×10^{-7}). The result in the appropriation process comes from the fact that amendments to annual appropriations bills are mostly about cutting of defense spending and are closely related to specific items. This fact reduces the effect of *generalized* PAC contributions on favorableness to defense spending.

In sum, conservative ideology has a positive impact with statistical significance in both the authorization and the appropriation processes. Majority party status does not have significant influence on legislators' favorableness to defense spending in both the authorization and the appropriation processes. Regarding economic factors such as PAC contribution and military contracts to congressional districts, each congressional budgetary process showed different results. PAC contribution has a positive and significant impact on legislators' favorableness to defense spending in the authorization process, while military contract to congressional district has a negative and significant influence. Considering the fact that PAC contribution and conservative ideology has a positive and significant impact on legislators favorableness to defense spending in the authorization process, the authorization process is more likely to be under the influence of American militarism which has features of conservative ideology and support for Research & Development and weapon procurement programs. Moreover, the factor of military contracts to congressional districts needs to be modified because the problem of subcontract practice still has not been solved clearly. It is also necessary to find a proper political community, other than congressional districts, which can reflect the economic influence of military contracts. Furthermore, it is necessary to attempt program-based analysis for the appropriation process because the appropriation process is closely related to specific defense programs rather than covering general issues of defense policy.

Reference

Congressional Record-House

Bill Summary & Status Search Results-THOMAS (Library of Congress)

The Office of Management and Budget, Curcular No. 11,2008,

US Constitution

US Congress, 2007, The Congressional Appropriation Process: An introduction

Hearings

U.S. Senate. 1992. *“Military strategy, Net Assessment and Defense Planning and Budget issues,” in Threat assessment, military strategy, and defense planning : hearings before the Committee on Armed Services, United States Senate, One Hundred Second Congress, second session, January 22, 23; February 19; March 3, 20, 1992.* (U.S. G.P.O, Washington D.C.).

U.S. House. 1994. *Assessment of the Bottom-Up Review : hearings before the Military Forces and Personnel Subcommittee of the Committee on Armed Services, House of Representatives, One Hundred Third Congress, second session, March 1, and March 22, 1994.* (U.S. G.P.O., Washington D.C.

U.S. House. 1997. *THE QUADRENNIAL DEFENSE REVIEW: COMMITTEE ON NATIONAL SECURITY HOUSE OF REPRESENTATIVES, ONE HUNDRED FIFTH CONGRESS, FIRST SESSION.* (HEARINGS HELD APRIL 16, MAY 21 AND 22, 1997)

U.S. Senate. 1997. *Quadrennial defense review: hearings before the Committee on Armed Services, United States Senate, One Hundred Fifth Congress, first session, May 20 and 21, 1997.* (U.S. G.P.O., Washington D.C.)

U.S. House. 2001. *U.S. National Security Strategy and the Quadrennial Defense Review: Hearing Before the Committee on Armed Services House of Representative, One Hundred Seventh Congress, Frist Session, held, June 21, 2001.* (U.S. G.P.O., Washington D.C.)

U.S. House. 2001; U.S. Senate. 2001. *HEARING BEFORE THE COMMITTEE ON ARMED SERVICES UNITED STATES SENATE ONE HUNDRED SEVENTH CONGRESS FIRST SESSION OCTOBER 4, 2001* (U.S. GPO, Washington D.C.)

U.S. House. 2006. *Department of Defense Quadrennial Defense Review : hearing before the Committee on Armed Services, House of Representatives, One Hundred Ninth Congress, second session, hearing held, March 14, 2006.* (U.S. G.P.O., Washington D.C.);

U.S. Senate. 2006. *The Department of Defense Quadrennial Defense Review: hearing before the Committee on Armed Services, United States Senate, One Hundred Ninth Congress, second session, March 8, 2006.* (U.S. G.P.O., Washington D.C.).

U.S. House. 2010. *THE 2010 QUADRENNIAL DEFENSE REVIEW: HEARING BEFORE THE FULL COMMITTEE OF THE COMMITTEE ON ARMED SERVICES HOUSE OF REPRESENTATIVES ONE HUNDRED ELEVENTH CONGRESS SECOND SESSION HEARING HELD FEBRUARY 4, 2010.* (U.S. G.P.O., Washington D.C.)

U.S. Senate. 2010. *HEARING OF THE SENATE ARMED SERVICES COMMITTEE; SUBJECT: DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2011; THE FUTURE YEARS DEFENSE PROGRAM; THE 2011 QUADRENNIAL DEFENSE REVIEW (QDR).* February 2, 2010. (U.S. G.P.O., Washington)

Data Set

Roll Call Data/DW Nominate No.

Keith Poole's Website for Roll Call data: <http://voteview.com/dwnominate.asp>

House Committee Assignment

Charles Stewart's Congressional Data Page: http://web.mit.edu/17.251/www/data_page.html

Public Opinion

Gallup polls on Military and National Defense. ((<http://www.gallup.com/poll/1666/military-national-defense.aspx>)

Public opinion:

<http://webapps.ropercenter.uconn.edu/CFIDE/cf/action/ipoll/questionDetail.cfm?keyword=%28defense%7Cmilitary>

US defense spending

NATIONAL DEFENSE BUDGET ESTIMATES FOR FY 2013, OFFICE OF THE UNDER SECRETARY OF DEFENSE (COMPTROLLER), MARCH 2012

DoD TOA by Appropriation Title – FY 1948 to the Present

US deficit

http://www.usgovernmentspending.com/spending_chart_1960_2017USk_13s1li011mcn_G0f, 2005 constant dollar

Russia and China Defense expenditure

1969-1978: WMWAT 1978, Military Expenditures, Armed Forces, GDP, CGE, Population, and Their Ratios, By Group and Country

1979-1987: WMEAT 1987

1988: WMEAT 1989

1989-1999: WMEAT 2000

2000-2005: WMEAT 2005, <http://www.state.gov/documents/organization/170299.pdf> (Statistical Notes to WMEAT 2005)

2005-2012: SIPRIS year book, CIA World fact book, World Bank GDP data base (FY 2000 Constant Dollar)

Postal Zip code

- For the 1990's: the appendix of 'zip code-congressional districts' in *Congressional Districts in the 1990s: A portrait of America*
- For the 2000's and 2010's:
http://www2.census.gov/geo/relfiles/cd110th/natl_code/zcta_cd109_natl.txt and
http://www2.census.gov/geo/relfiles/cd109th/natl_code/zcta_cd113_natl.txt

- Postal Zip codes map: “the 2013 ZIP Code Tabulation Areas (ZCTAs) Boundary File”
(https://www.census.gov/geo/maps-data/data/cbf/cbf_zcta.html)

Congressional Districts Map

United States Congressional District Shapefiles (<http://cdmaps.polisci.ucla.edu/>)

Defense Contract

https://www.fpbs.gov/fpbsng_cms/: Federal procurement data system

PAC Contribution: Federal Election Commission

<http://www.fec.gov/finance/disclosure/ftpdet.shtml>

- Committee files: CM data
- Candidates files: CN data
- Contributions to Candidates files: PAS2 data

[Http://www.opensecret.org/](http://www.opensecret.org/)

- Lobby industries file: table of “lob_indust.txt” in Lobbying Data
(<http://www.opensecrets.org/myos/bulk.php>)
- Description of the lobby industries file:
http://www.opensecrets.org/resources/datadictionary/Data%20Dictionary%20lob_issues.htm
- Industries code: [CRP_Categories.txt](#) (a tab-delimited text file of Industry codes:
http://www.opensecrets.org/downloads/crp/CRP_Categories.txt)
- Defense related industries information:
<http://www.opensecrets.org/pacs/sector.php?txt=D&cycle=2014>

NSVI (National Security Voter Index)

NSVI index (National Security Voter Index):

http://www.ascfusa.org/content_pages/view/voter-index-archive

ADA (American for Democratic Action)

ADA index (American for Democratic Action Index): <http://www.adaction.org/pages/publications/voting-records.php>

Journal Articles, Book, Thesis, Dissertation

Aldrich, John H. 1995. *Why Parties? The Origin and Transformations of Political Parties in America*. Chicago: University of Chicago Press.

Arnold, R. Douglas. 1990. *The logic of Congressional Action*. New Haven: Yale university press.

Aspin, Les. 1975. "The Defense Budget and Foreign Policy: The Role of Congress." *Daedalus*. Vol.104. No.3. pp. 155-174.

Aspin, Les. 1992. *Debate on National Defense* – Hon. Les Aspin (Extension of Remarks – April 03, 1992)

Aspin, Les. 1993, *Report on the Bottom-Up Review* (Department of Defense)

Augustine, Norman R., 1997, "Reshaping and Industry: Lockheed Martin's Survival Story" *Harvard Business Review*

Bacevich, Andrew J.. 2005. *The New American Militarism*. New York: Cambridge University Press.

Bacevich, Andrew J.. 2008. *The Limit of Power*. New York: Metropolitan Books.

Baev , Pavel. 2001. "Towards a Revolution in Military Affairs Defense and Security at the Dawn of the Twenty-First Century." *Journal of Peace Research*. 38, no. 3 (May 2001): 407.

Baker, William and John O'Neal. 2001. "Patriotism or Opinion Leadership." *Journal of Conflict Resolution*. Vol 45, No. 5. pp. 661-87.

- Bartel, Larry M.. 1991. "Constituency Opinion and Congressional Policy Making: The Reagan Defense Build Up." *The American Political Science Review*. Vol. 85. No.2. pp.457-474.
- Beier, J. Marshall. 2006. "Outsmarting Technologies: Rhetoric, Revolutions in Military Affairs, and the Social Depth of Warfare." *International Politics*. 43, no. 2 (Apr 2006): 266-280.
- Bickel , Keith. 2001. "Toward a Revolution in Military Affairs? Defense and Security at the Dawn of the Twenty-First Century." *The Journal of Military History*. 65, no. 1 (January 2001): 277-278.
- Briganti , Giovanni de. 2012. *F-35 Reality Check Ten Years On -- Part 1: 'Fifth-Generation' and Other Myths*. (Source: defense-aerospace.com; published May 9, 2012).
- Browne, James A. 1998, *Air Superiority Fighter Characteristics*, MA thesis CGSC.
- Burk, James. 2002. "Theories of Democratic Civil-Military Relations," in *Armed Forces and Society*/Fall 2002 Vol.29, No.1. (Sage Publication) pp. 7-10.
- Carey, John M.. 2009. *Legislative Voting and Accountability*. Cambridge Press: New York.
- Cate, Devin L. 2003, *The Air Superiority Fighter and Defense Transformation: Why DOD Requirements Demand the F/A-22 Raptor*. Air War College.
- Chandrasekaran, Rajiv. 2013. "F-35's ability to evade budget cuts illustrates challenge of paring defense spending," in *Washington Post* on March 9, 2013.
(http://www.washingtonpost.com/world/national-security/f-35s-ability-to-evade-budget-cuts-illustrates-challenge-of-paring-defense-spending/2013/03/09/42a6085a-8776-11e2-98a3-b3db6b9ac586_story.html).
- Chairman of Joint Chiefs of Staffs Instruction. 2001. " Enclosure A: Requirement Generation System," *Requirement Generation System*.
- Charette, Robert N. 2012. "F-35 Program Continues to Struggle with Software." *IEEE Spectrum*, 19 September 2012.
- Clausewitz, Carl von. On War Book one, Part 1.
- Cobb, Stephen. 1976. "Defense Spending and Defense Voting in the house: An empirical Study of an Aspect of the Military Industrial Complex Thesis." *American journal of Sociology*. Vol. 82. No.1. pp. 163-182.

- Cohen, Eliot. 1997. "Are U.S. Forces Overstretched?: Civil-Military Relations," in *Oribis* Spring 1997. pp. 177 – 186.
- Cohen, William S. 1997. *Report of the Quadrennial Defense Review* (Department of Defense).
- Collins, Joseph J. 2006. "War and Destiny: How the Bush Revolution in Foreign and Military Affairs Redefined American Power." *Joint Force Quarterly: JFQ*, 40 (First Quarter 2006): pp. 93-94.
- Chong, Denis and James Druckman. 2007. "Framing Theory." in *American Review of Political Science*.
- Cox, Gary and Mathew McCubbins. 2005. *Setting the Agenda: Responsible Party Government in the U.S. House of Representatives*. Cambridge University Press: New York
- Crespin, Michael H. and David W. Rhode. 2010. "Dimensions, Issues, and Bills: Appropriation Voting on the House Floor" in *Journal of Politics* Vol. 72 No.4 October 2010
- CRS Report for Congress. 2003. *Military Transformation: Intelligence, Surveillance and Reconnaissance*.
- CRS Report for Congress. 2005. *Defense Transformation: Background and Oversight Issues for Congress*.
- CRS Report for Congress. 2003. *Military Transformation: Issues for Congress and Status of Effort*.
- CRS Report for Congress. 2006. *Defense Transformation: Background and Oversight Issues for Congress*.
- Cunningham, Jim. 1997. "The New Old Threat: Fighter Upgrade and What they mean for the USAF, " *Air Chronicles*.
- Dahl, Robert A. 1971. *Polyarchy: Participation and Opposition*. New Haven: Yale university press.
- Dahl, Robert A. 1989. *Democracy and its critic*. New Haven: Yale university press.
- Dawson, Raymond H.. 1962. "Congressional Innovation and Intervention in Defense Policy: Legislative Authorization of Weapon System." *The American Political Science Review*. Vol.56. No. 1. Pp.42-57.
- Deering, Christopher J. (eds.). 1989. *Congressional Politics*. the Dorsey Press: Chicago.
- Deering, Christopher J. (eds.). 1997. *Committees in Congress*

Defense Acquisition University, 2004, *JCIDS Overview Brief*, slide 4-7 (<https://acc.dau.mil/adl/en-US/32579/file/6180/JCIDS%2520Overview%2520Brief%2520Oct%252004.ppt>)

Department of Defense. *DOD Dictionary-JP1*.

Department of Defense. 2001. *Quadrennial Defense Review Report* (Department of defense)

Department of Defense. 2003. *Military Transformation: Strategic Approach*.

Department of Defense. 2006. *Quadrennial Defense Review Report* (Department of defense)

Department of Defense. 2010. *Quadrennial Defense Review Report* (Department of defense)

Department of Defense. 2014. *Quadrennial Defense Review 2014* (Department of defense).

Deutch, John. 2001. "CONSOLIDATION OF THE U.S. DEFENSE INDUSTRIAL BASE" in *Acquisition Review Quarterly*

Dombrowski , Peter and others. 2002. "Selling the Military Transformation: The Defense Industry and Innovation" *Orbis* Summer 2002

Dombrowski, Peter J.. 2002. Military transformation and the defense industry after next: the defense industrial implications of network-centric warfare. (Naval War College)

Douhet, Giulio. 1927. "The Command of the Air." in *Roots of Strategy Book 4* (David Jablonsky ed.. 1999.) (Stackpole Books. PA). pp. 276 – 277.

Drew, Christopher. "Costliest Jet, Years in Making, Sees the Enemy: Budget Cuts," in *New York Times* Published: November 28, 2012 (http://www.nytimes.com/2012/11/29/us/in-federal-budget-cutting-f-35-fighter-jet-is-at-risk.html?_r=0)

Espino, Rodolfo & Michale M. Franz. 2003. " Re-Testing Committee Composition Hypotheses for the U.S. Congress." *Political Analysis*.

Enthoven, Alain C. and K. Wayne Smith. 2010. "New Concepts and New Tools to Shape the Defense Program." in *How Much Is Enough: Shaping the Defense Program 1961-1969*. pp. 31-72

Farkas, Kenneth and Paul Thurston. 2003. "Evolutionary Acquisition Strategies and Spiral Development Processes Delivering Affordable, Sustainable Capability to the Warfighters" in *PM*. pp. 10-14.

Fenno, Richard F.. 1978. *Homestyle: House Members in their district*. London: Longman.

- Fiorina, Morris P.. 1989. *Congress, Keystone of the Washington Establishment*. New Haven: Yale University Press.
- Flamm, Kenneth. 2005. "Post-Cold War Policy and the U.S. Defense Industrial Base." in *The Bridge* (NATIONAL ACADEMY OF ENGINEERING)
- Fleisher, Richard. 1993. "PAC Contribution and Congressional Voting on National Defense." *Legislative Studies Quarterly*. Vol. 18. No.3 pp. 391-409
- Force Structure, Resources, and Assessments Directorate (JCS J-8),2006, *Capabilities-Based Assessment (CBA) User's Guide Version 2*.
- Gary J . Pagliano and Ronald O'Rourke.2004. *Evolutionary Acquisition an Spiral Development in Programs : Policy Issues for Congress (CRS Report for Congress)*.
- GAO-06-356. "DOD Plans to Enter Production before Testing Demonstrates Acceptable Performance." GAO. March 2006.
- GAO. 2001. *MILITARY TRANSFORMATION: Navy Efforts Should Be More Integrated and Focused* (Report to Congressional Requesters).
- GAO. 2001. *Joint Strike Fighter Acquisition: Mature Critical Technologies Needed to Reduce Risks*.
- GAO. 2001. *MILITARY TRANSFORMATION: Army Has a Comprehensive Plan for Managing Its Transformation but Faces Major Challenges* (Report to Congressional Requesters).
- GAO. 2003. *MILITARY TRANSFORMATION: The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation, but Issues Remain for Future Brigades* (Report to Congressional Requesters).
- GAO. 2003. *MILITARY TRANSFORMATION: Clear Leadership, Accountability, and Management Tools Are Needed to Enhance DOD's Efforts to Transform Military Capabilities* (Report to Congressional Requesters).
- GAO. 2003. *MILITARY TRANSFORMATION: Progress and Challenges for DOD's Advanced Distributed Learning Programs* (Report to Congressional Requesters).
- GAO. 2003. *MILITARY TRANSFORMATION: Army's Evaluation of Stryker and M-113A3 Infantry Carrier Vehicles Provided Sufficient Data for Statutorily Mandated Comparison* (Report to Congressional Requesters).

- GAO. 2004. *MILITARY TRANSFORMATION: Clear Leadership, Accountability, and Management Tools Are Needed to Enhance DOD's Efforts to Transform Military Capabilities* (Report to Congressional Requesters).
- GAO. 2004. *MILITARY TRANSFORMATION: Fielding of Army's Stryker Vehicles Is Well Under Way, but Expectations for Their Transportability by C-130 Aircraft Need to Be Clarified* (Report to Congressional Requesters).
- GAO. 2005. *TACTICAL AIRCRAFT: Opportunity to Reduce Risks in the Joint Strike Fighter Program with Different Acquisition Strategy*.
- GAO, 2006, *MILITARY TRANSFORMATION: Additional Actions Needed by U.S. Strategic Command to Strengthen Implementation of Its Many Missions and New Organization* (Report to the Subcommittee on Strategic Forces, Committee on Armed Services, House of Representatives).
- GAO. 2007. *Joint Strike Fighter: Progress Made and Challenges Remain*.
- GAO. 2008. *Defense Acquisitions: Assessments of Selected Weapon Programs*. (Gao.gov), 29 August 2008. Retrieved 4 December 20
- GAO. 2014. *F-35 JOINT STRIKE FIGHTER: Problems Completing Software Testing May Hinder Delivery of Expected Warfighting Capabilities*.
- Garamone, Jim 2001. "Bush Addresses NATO, U.S. Military Transformation" in *American Forces Press Service* NORFOLK, Va., (Feb. 13, 2001).
- Gates, Robert. "Speech to Air Force Academy." defense.gov, 4 March 2011. Retrieved 8 March 2011.
- Gates, William. 1989. *Department of Defense Procurement Policy Reform: An Evolutionary Perspective*. Monterey: Naval Postgraduate School.
- Gearan, Anne. "Defense Secretary Gates proposes weapons cuts." *The Seattle Times*. 7 April 2009
- Gertler, Jeremia. 2009. *Air Force F-22 Fighter Program: Background and Issues for Congress*. Library of Congress Washington DC Congressional Research Service.
- Gertler, Jeremia, 2009. *Tactical Aircraft Modernization: Issues for Congress*. Library of Congress Washington DC Congressional Research Service.

- Ghoshoroy, Subrata. 2011. "Restructuring defense R&D." in *Bulletin of the Atomic Scientists*.
<http://www.thebulletin.org/node/8970>
- Gilligan, Thomas & Keith Krehbiel. 1987. "Collective Decision-Making and Standing Committees: And Informational Rationale for Restrictive Amendment Procedures." *Journal of Law, Economics, and Organization* 3:287 - 335.
- Gilligan, Thomas & Keith Krehbiel. 1989. "Asymmetric Information and Legislative Rules with a Heterogeneous Committee." *American Journal of Political Science* 33:459 - 490.
- Gilligan, Thomas & Keith Krehbiel. 1990. "Organization of Informative Committees by a Rational Legislature." *American Journal of Political Science* 34:531 - 564.
- Gist, John R.. 1981. "The Impact of Annual Authorizations on Military Appropriations in the U.S. Congress, *Legislative Studies Quarterly*, Vol. 6, No. 3 (Aug.) pp.439~454.
- Gordon, Joshua B.. 2008. "The (Dis)Integration of the House Appropriation Committee: Revisiting The Power of the Purse in a Partisan Era" in *Congress Reconsidered*, Lawrence Dodd (eds.)
- Goss, Carol F.. 1972. "Military Committee Membership and Defense-Related Benefits in the House of Representative." *The Western Political Quarterly*. Vol. 25. No.2. pp. 215-233.
- Griffin, William R.. 2012. *The Way Forward for America's Fighter Force*, USAWC Strategy Research Project.
- Groeling, Tim and Matthew Baum. 2008. "Corring the Water's Edge: Elite Rhetoric, Media Coverage, and the Rally -Round-the- Flag Phenomenon." *Journal of Politics*.
- Groseclose,, Timothy. 1994. "Testing Hypothesis of Committee Composition." *Journal of Politics*. 56 (May): 440-58.
- Hall, Richard L. and Frank W. Wayman. 1990. "Buying Time: Moneyed Interest and the Mobilization of Bias in Congressional Committees." *The American Political Science Review*. Vol. 84. No.3 pp. 797-820
- Hallion, Richard P.. 1990. "A Troubling Past: Air Force Fighter Acquisition since 1945." *Air Power Journal*.
- Harkavy, Robert and Edward A. Kolodziej. 1980. *American Security Policy and Policy-Making*, Massachusetts: Lexington Books.

- Hays, Peter L., Brenda J. Vallance, and Alan R. Van Tassel (eds.). 1997. *American Defense Policy* seventh Edition. The Johns Hopkins University Press.
- Herbert, Adam J.. 2008. "Fighter Generation." *Air Force Magazine*.
- Herspering, Dale Roy. 2005. *The Pentagon and the Presidency*. (University of Kansas Press: Lawrence, KS).
- Hetherington , Mark and Michael Nelson. 2003. "Anatomy of a Rally Effect: Goerge W. Bush and the War on Terrorism. PS: Political Science and Politics p. 37
- Huntington, Samuel P.. 1959. *The Soldier and the State* (Harvard University Press, Cambridge, MA)
- Huntington, Samuel P.. 1961. *The common defense; strategic programs in national politics*. New York: Columbia University Press.
- Jaffe, Lorna S.. 1993. "Acceptance of the Base Force." in *DEVELOPMENT OF THE BASE FORCE 1989 – 1992 JOINT HISTORY OFFICE*
- Janowitz, Morris.. 1960. *The Professional Soldier*, (Free Press, Glencoe IL)
- Janowitz, Morris. 1974. " Toward a Redefinition of Military Strategy in International Relations" *World Politics*, Vol. 26, No. 4 (Jul.), pp. 473~508.
- Joint Chiefs of Staffs. 1992. *THE NATIONAL MILITARY STRATEGY of the UNITED STATES*.
- Joint Chiefs of Staffs. 2012. *MANUAL FOR THE OPERATION OF THE JOINT CAPABILITIES INTEGRATION AND DEVELOPMENT SYSTEM*. p.2.
- Jones, Bryan D.. 1994. *Reconceiving Decision-Making in Democratic Politics*. Chicago: University of Chicago Press.
- Kagan, Frederick.. 2006. *Finding the Target: The Transformation of American Military Policy*. (Encounter book)
- Kaufman, Daniel J., Jeffrey S. McKittrick and Thomas J Leney. 1985. *US National Security: A Framework For Analysis*, Lexington: Lexington Books.
- Kernell, Samuel and Erik J. Engstrom. 1999. "Serving Competing Principals: The Budget Estimates of OMB and CBO in an Era of Divided Government." *Presidential Studies Quarterly* 29, no. 4 (1999) (December).

- King, David. 1994. "The Nature of Congressional Committee Jurisdictions." *American Political Science Review*. 88: 48-62.
- Krehbiel, Keith. 1998. *Pivotal Politics: A Theory of U.S. Lawmaking*. University of Chicago Press: Chicago
- Laurance, Edward J.. 1976. "The changing Role of Congress in Defense Policy-Making." *The Journal of Conflict Resolution*. Vol. 20. No. 2 (Jun.,1976) pp. 213-253.
- LEVINSON, ROBERT. SOPEN SHAH, PAIGE K. CONNOR, and DANIEL PARKS, 2011, *Impact of Defense Spending: A State-by-State Analysis*
(<http://forbes.house.gov/uploadedfiles/bloomberg.pdf>)
- Lewis, Adrian R.. 2012. *The American Culture of War*. New York: Routledge.
- Lewis, Davis E. and Terry M Moe. 2010. "The President and the Bureaucracy: The Levers of Presidential Control" In Michael Nelson (ed.), *The Presidency and the Political System 8th edition*, Washington DC: CQ Press, 2010.
- Lijphart, Arend, and Bernard Grofman, eds. 1984. *Choosing an Electoral System*. New York: Praeger
- Lindaman, Kara and Donald P. Heidermarkel. 2002. "Issue Evolution, Political Parties, and the Culture Wars." *Political Research Quarterly* 55: 91-100.
- Lindsay, James M.. 1990. "Congressional Oversight of the Department of Defense: Reconsidering the Conventional Wisdom." *Armed Forces & Society*. Vol.17. No.1. pp. 7-33.
- Lindsay, James M.. 1990. "Parochialism, Policy, and Constituency Constraints: Congressional Voting on Strategic Weapons Systems." *The American Journal of Political Science*. Vol. 34. No. 4. Pp. 936-960.
- Lindsay, James M.. 1991. "Testing the Parochial Hypothesis: Congress and the Strategic Defense Initiatives." *Journal of Politics*. Vol.53. No. 3. Pp. 860-879.
- Lindsay James M. and Randall B Ripley. 1994. "How Congress influence Foreign and Defense Policy." *Bulletin of the American Academy of Arts and Science*. Vol. 47. No. 6 (Mar. 1994).
- Lockheed Martin. *Annual report of Lockheed Martin* from 1995 to 2012
- Lorell, Mark A and Hugh P. Levaux. 1998. *Cutting Edge: A half century of U.S. fighter aircraft R&D*. Rand

- Lorell, Mark A. and etc.. 2013. *Do Joint Fighter Programs Save Money?*. Rand
- Loo, Bernard (eds.). 2009. *Military Transformation and Strategy : Revolution in Military Affairs and Small States* (Routledge)
- Mayhew, David R.. 1974. *Congress: The Electoral Connection*. New Haven: Yale University Press.
- Major, Aaron. "Which Revolution in Military Affairs?: Political Discourse and the Defense Industrial Base." *Armed Forces and Society*. 35. no. 2 (Jan 2009): p.333
- McCormack, Robert C.. 1989. "Bolstering Defense Industrial Competitiveness Through International Cooperation," in *Defense* 89, pp. 10-13
- Meernik, James. 1993. "Presidential Support in Congress: Conflict and Consensus on Foreign and Defense Policy." *The Journal of Politics*. Vol 55. No. 3. (Aug 1993) pp. 569-587.
- Miller, Gary J.. 2005. "The Political Evolution of Principal Agent Models" in *Annual Review of Political Science* (2005) : 203-225
- Millet, Allen R. and Williamson Murray (ed.). 1987. *Military Effectiveness Vol. I, II, III*, (Allen & Unwin, Boston).
- Nielsen, Suzanne C. and Snider Don M. 2009. *American Civil-Military Relations: The Soldier and the State in a New Era*, Baltimore: Johns Hopkins University Press.
- Office of the Auditor General of Canada. 2012. "Chapter 2: Replacing Canada's Fighter jets". in *the Report of the Auditor General of Canada to the House of Commons*
- Oleszek, Walter J. 2011. *Congressional Procedures and the Policy Process*. CQ Press: Washington DC.
- Olson, Jude and Frank Barrett. 2005." Inventing the Joint Strike Fighter: Applying Appreciation Inquiry to Collaborative Start Ups." *Practitioner*.
- O'Rourke, Ronald. 1991. *Persian Gulf War: Defense-Policy Implications for Congress* (Congressional Research Service: Library of Congress).
- Page, Benjamin and Robert Shapiro. 1983. "Effect of Public Opinion on Policy." *American Political Science Review* 77: 175-190.
- Paret, Peter (ed.). 1986. *Makers of Modern Strategy: from Machiavelli to Nuclear Age* (Clarendon Press, London).

- Poole, Keith and Howard Rosenthal. 1991. "Patterns of Congressional Voting." *American Journal of Politics Science*. 35: 228-278.
- Prins, Brandon C. and Bryan W. Marshall. 2001. "Congressional Support of the President: A Comparison of Foreign, Defense, and Domestic Policy Decision Making during and after the Cold War." *Presidential Studies Quarterly*. Vol.31. No. 4. Pp. 660-678.
- Proximire, William and Kenneth Boulding and others(eds.). 1996. *National Priorities*, Washington D.C.: Public Affair Press.
- Ray, Bruce A.. 1981. "Defense Department Spending and "Hawkish" Voting in the House of Representatives." *The Western Political Quarterly*. Vol. 34. No.3. pp.438-446.
- Ripley, Radall B. 1988. "Congress and Foreign and Defense Policy: An Overview and Research Agenda." *Mershon Center Quarterly Report* Vol. 13. No.1 (Summer 1988)
- Ripley, Radall B. and James M. Lindsay. 1992. "Foreign and Defense Policy in Congress: A Research Agenda for the 1990s." *Legislative Studies Quarterly*. Vol. 17. No. 3. (Aug. 1992) pp. 417-449.
- Ripley, Radall B. and Franklin, Grace A.. 1980. *Congress, the bureaucracy, and public policy*. Illinois: The Dorsey press.
- Rundquist, Barry S. and Thomas M. Carsey. 2002. *The Distiributive Politics of Military Procurement*. Norman: University of Oklahoma Press
- Rundquist Barry R. and David E. Griffith. 1976."An interrupted Time Series Test of the Distiributive Theory of Military Policy Making." *The Western Political Quarterly*, Vol. 29. No 4. (Dec. 1976) pp. 620-626.
- Rundquist Barry R., Jeong Hwa Lee and Jungho Rhee. 1996. "The Distributive Politics of Cold War Defense Spending : Some State Level Evidence." *Legislative Studies Quarterly*, Vol.21, Vo. 2 (May, 1996) pp. 265-281.
- Rundquist, Barry S. and Thomas M. Carsey. 1999. "Party and Committee in Distributive Politics: Evidence form Defense Spending." *The Journal of Politics*. Vol. 61. No. 4. (Nov. 1999), pp. 1156-1169.

- Russett, Bruce and Thomas Hartley. 1992. "Public Opinion and the Common Defense: Who Governs Military Spending in the United States?" *American Political Science Review* 86-4, pp. 905-915.
- Sarkesian, Sam C. and Robert E. Connor, Jr.. 1999. *The US Military Profession into the Twenty-First Century: War, Peace and Politics*. New York: Routledge.
- Shepsle, Kenneth and Mark Bonchek. 1997. *Analyzing Politics: Rationality, Behaviors, and Institutions*. W.W. Norton & Company: New York.
- Sinclair, Barbara. 2005. *Omnibus Legislation, the Budget process and Summits in Unorthodox Lawmaking*.
- Stevenson, Donald and etc., 1997. *The Next-generation attack fighter: affordability and mission needs*. Rand
- Sullivan , John V.. 2007, *How our laws are mad*. Washington D.C : USGPO
- Sun Tzu, *Art of War*
- Thompson, Loren B.. 2010. "Rumor Of Marine F-35 Termination Talks Is Wrong." *Lexington Institute*, 15 November 2010.
- Thompson, Loren. 2010. "Pentagon Factional Disputes Are A Key Driver Of F-35 Cost Increases." *Lexington Institute*, 1 November 2010.
- Thorpe, Rebecca U. 2011. "The Role of Economic Reliance in Defense Procurement Contracting." *American Political Research*. 2010 38: 646
- Tirpak, John A., 2009, "The Sixth Generation Fighter," *Air Force Magazine*
- Trimble, Stephen. 2010a. "Fix for F-35 final assembly problem pushed back." *Flight International*, 16 August 2010. Retrieved: 24 August 2010.
- Trimble, Stephen. 2010b. "Lockheed's F-35 faces second restructuring this year." *Flight International*, 3 November 2010.
- Trimble, Stephen. 2011. "US military unveils possible F-35B redesign in sweeping budget reforms." *Flight International*, 6 January 2011.
- Trimble, Stephen. 2010. "Israel sets sights on two-seater F-35." *Flight International*, 22 January 2010.

- Yudken, Joel S. 2009, *MANUFACTURING INSECURITY AMERICA'S MANUFACTURING CRISIS AND THE EROSION OF THE U.S. DEFENSE INDUSTRIAL BASE* (Industrial Union Council, AFL-CIO).
- The Under Secretary of Defense, 2002, Memorandum for *Evolutionary Acquisition and Spiral Development*
<http://www.secnave.navy.mil/rda/Policy/2002%20Policy%20Memoranda/041202acq.pdf>
- U.S. Air Force. February 2010. "FY 2011 Budget Estimates." pp. 1–47
- US Congress, 1993, "Sec. 204. Funding for Defense Conversion and Reinvestment Research and Development Programs" in *H.R. 2401- National Defense Authorization Act for Fiscal Year 1994*, the 103rd Congress.
- The US House, 1995, "Sec. 922. Findings", in *Military Force Structure Act of 1996*.
- Vagts, Alfred. 1959. "Introduction – The Idea and Nature of Militarism." in *A History of Militarism* (Meridian Book). pp. 14-32.
- Vlahos, Michael. 2003. Perspectives on Military Transformation: Toward a Global Security Force (Johns Hopkins University Applied Physics Laboratory)
- Vucetic, Srdjan. 2013. "Before the Cut: The Global Politics of the F-35 Joint Strike Fighter" *CIPSS/CEPSI Workshop on International Cooperation McGill University*.
- Wall, Robert and David A. Fulghum. 2001. *Lockheed Martin Strikes Out Boeing*. Aviation Week's BUBAI 2001
<http://aviationweek.com/sitefiles/aviationweek.com/files/uploads/2015/01/2001-%20Lockheed%20Martin%20Wins%20the%20JSF.pdf>);
- Warwick, Graham and Amy Butler. "F-35 Replan Adds Time, Resources For Testing." *Aviation Week*, 8 February 2011.
- Watts, Barry D. and Todd Harrison. 2011. "Executive Summary." in *SUSTAINING CRITICAL SECTORS OF THE U.S. DEFENSE INDUSTRIAL BASE* (Center for Strategic and Budgetary Assessments).
- Weingast, Barry & William Marshall. 1988. "The Industrial Organization of Congress; or, Why Legislatures, Like Firms, are not Organized as Markets." *Journal of Political Economy* 96:132 - 163.

Wheeler, Winslow T. and Lawrence J. Korb. 2007. *Military reform: a reference handbook* (Praeger: Westport CT)

Wildavsky, Aaron. 1969. "Rescuing Policy Analysis from PPBS." *Public Administration Review*. Vol. 29. No. 2. Pp. 189-202.

Williams, Michael D.. 1999. *Acquisition for the 21st Century*. National Defense University Press

Wilson, Graham K. 1990. *Interest Groups*. Cambridge, MA: Basil Blackwell

Wright, John R. 1996. *Interest Groups & Congress*. Needham Height, MA: Allyn & Bacon.

Media & Internet

Ben-David, Alon. 2010. "Israel To Buy F-35s With Cockpit Mods." *Aviation Week*, 27 August 2010.

Ben-David, Alo. 2011. Amy Butler and Robert Wall. "Israel, U.S. Strike F-35 Technology Deal." *Aviation Week*, 7 July 2011. Retrieved 8 October 2011.

Chuter, Andrew. 2012. "It's Official: U.K. To Switch Back to STOVL F-35." *Defense News*. 10 May 2012.

CNNmoney, 2001, *Defense Dept. taps Lockheed-Martin for \$200B Joint Strike Fighter*, October 26, 2001: 6:09 p.m. ET (<http://money.cnn.com/2001/10/26/companies/strikefighter/>)

Department of National Defence (Canada). "Canadian DND Reinforces Its Estimates for F-35 Acquisition.", 21 March 2011.

DefPro.News, 2011. "JSFail? Not When the Pentagon Grades the F-35 on a Curve." 7 March 2012.

Flight International. 2012. "Pentagon agrees to F-35A combat radius reduction." 8 March 2012.

Global Security. 2010. "F-35 Joint Strike Fighter (JSF) Lightning II – International Partners." Retrieved 7 April 2010.

Hoyle, Craig. "Cameron: UK to swap JSFs to carrier variant, axe Harrier and Nimrod." *Flight International*, 19 October 2010.

Kovach, Gretel C.. 2010. "Commandant calls Joint Strike Fighter essential." U-T San Diego, 8 December 2010.

Merle, Renae. 2005. "GAO Questions Cost Of Joint Strike Fighter." *The Washington Post*, 15 March 2005.

Marshall, Tyrone C. Jr.. 2012. "Panetta Lifts F-35B Probation." *Aviation Week*, 20 January 2012.

Ministry of Defence. 2009. "Major Projects Report 2008." Retrieved 23 November 2009.

New York Times. 2013. "new-troubles-for-pentagons-f-35-fighter".

(<http://www.nytimes.com/2013/02/23/business/new-troubles-for-pentagons-f-35-fighter.html?hp>)

Parliamentary Budget Officer. 2011. "An Estimate of the Fiscal Impact of Canada's Proposed Acquisition of the F-35 Lightning II Joint Strike Fighter." 10 March 2011.

RAF. 2013. "Third Joint Strike Fighter for the UK arrives". 2013-06-28. Retrieved 2013-08-02.

Regan, James. 2012. "U.S. seeks to ease concerns over F-35 delays, costs." *Reuters*, 15 March 2012

Rajiv Chandrasekaran, 2013. "F-35's ability to evade budget cuts illustrates challenge of paring defense spending," in *Washington Post* on March 9, 2013

(http://www.washingtonpost.com/world/national-security/f-35s-ability-to-evade-budget-cuts-illustrates-challenge-of-paring-defense-spending/2013/03/09/42a6085a-8776-11e2-98a3-b3db6b9ac586_story.html)

star-telegram.com. 2011. "Program Restructuring Should Improve Outcomes, but Progress Is Still Lagging Overall." 15 March 2011.

Weisgerber, Marcus. 2012. "Schwartz defends reduced F-35 combat radius." *AirForce Times*. 6 March 2012.

Appendix A. Zip code for the 1990's

1. Scan the appendix of “*Congressional District of the 1990's*”

California

1st District: 94508; 94515; 94533; 94535; 94558; 94559; 94562; 94567; 94573 94574; 94576; 94581; 94585* (CA 3, CA 7); 94589* (CA 7); 94599; 95403* (CA 6) 95404* (CA 6); 95409* (CA 6); 95410; 95411; 95414; 95415; 95417; 95418; 95420 95422; 95423; 95424; 95425; 95426; 95427; 95428; 95429; 95432; 95435; 95436* (CA 6); 95437; 95440; 95441; 95443; 95445; 95448* (CA 6); 95449; 95451; 95453 95454; 95455; 95456; 95457; 95458; 95459; 95460; 95461; 95463; 95464; 95466 95467; 95468; 95469; 95470; 95481; 95482; 95485; 95488; 95489; 95490; 95492* (CA 6); 95493; 95494; 95501; 95502; 95503; 95511; 95514; 95521; 95524; 95525 95526* (CA 2); 95528; 95531; 95532; 95534; 95536; 95537; 95538; 95540; 95542 95543; 95545; 95546; 95547; 95548; 95549; 95550; 95551; 95553; 95554; 95555 95556; 95558; 95559; 95560; 95562; 95564; 95565; 95567; 95569; 95570; 95571 95573; 95585; 95587; 95589; 95687* (CA 3); 95688* (CA 3).

2. Conversion the PDF file into Word 2013 File

California

1st District: 94508; 94515; 94533; 94535; 94558; 94559; 94562; 94567; 94573 94574; 94576; 94581; 94585* (CA 3, CA 7); 94589* (CA 7); 94599; 95403* (CA 6) 95404* (CA 6); 95409* (CA 6); 95410; 95411; 95414; 95415; 95417; 95418; 95420 95422; 95423; 95424; 95425; 95426; 95427; 95428; 95429; 95432; 95435; 95436* (CA 6); 95437; 95440; 95441; 95443; 95445; 95448* (CA 6); 95449; 95451; 95453 95454; 95455; 95456; 95457; 95458; 95459; 95460; 95461; 95463; 95464; 95466 95467; 95468; 95469; 95470; 95481; 95482; 95485; 95488; 95489; 95490; 95492* (CA 6); 95493; 95494; 95501; 95502; 95503; 95511; 95514; 95521; 95524; 95525 95526* (CA 2); 95528; 95531; 95532; 95534; 95536; 95537; 95538; 95540; 95542 95543; 95545; 95546; 95547; 95548; 95549; 95550; 95551; 95553; 95554; 95555 95556; 95558; 95559; 95560; 95562; 95564; 95565; 95567; 95569; 95570; 95571 95573; 95585; 95587; 95589; 95687* (CA 3); 95688* (CA 3).

3. Producing the zip code data, state by state, by Cross-checking with the original text

Zipcode California

1st District,

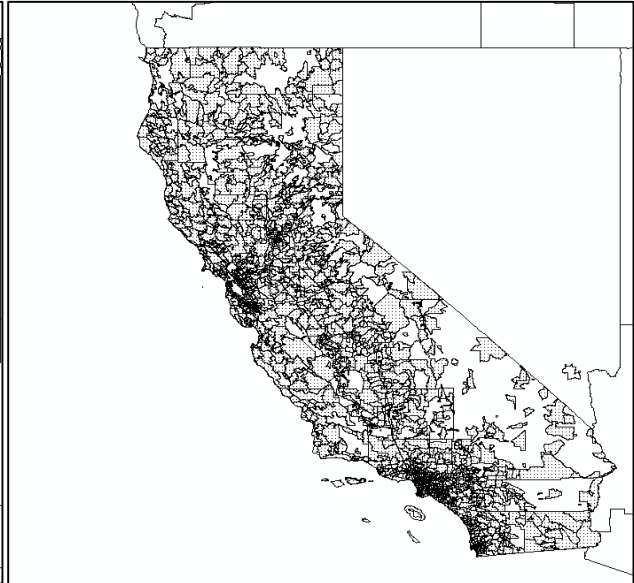
94508, 94515, 94533, 94535, 94558, 94559, 94562, 94567, 94573, 94574, 94576, 94581, 94585, 94589, 94599, 95403, 95404, 95409, 95410, 95411, 95414, 95415, 95417, 95418, 95420, 95422, 95423, 95424, 95425, 95426, 95427, 95428, 95429, 95432, 95435, 95436, 95437, 95440, 95441, 95443, 95445, 95448, 95449, 95451, 95453, 95454, 95455, 95456, 95457, 95458, 95459, 95460, 95461, 95463, 95464, 95466, 95467, 95468, 95469, 95470, 95481, 95482, 95485, 95488, 95489, 95490, 95492, 95493, 95494, 95501, 95502, 95503, 95511, 95514, 95521, 95524, 95525, 95526, 95528, 95531, 95532, 95534, 95536, 95537, 95538, 95540, 95542, 95543, 95545, 95546, 95547, 95548, 95549, 95550, 95551, 95553, 95554, 95555 95556, 95558, 95559, 95560, 95562, 95564, 95565, 95567, 95569, 95570, 95571, 95573, 95585, 95587, 95589, 95687, 95688.

Appendix B. Capturing the redistricting by using ArcGIS

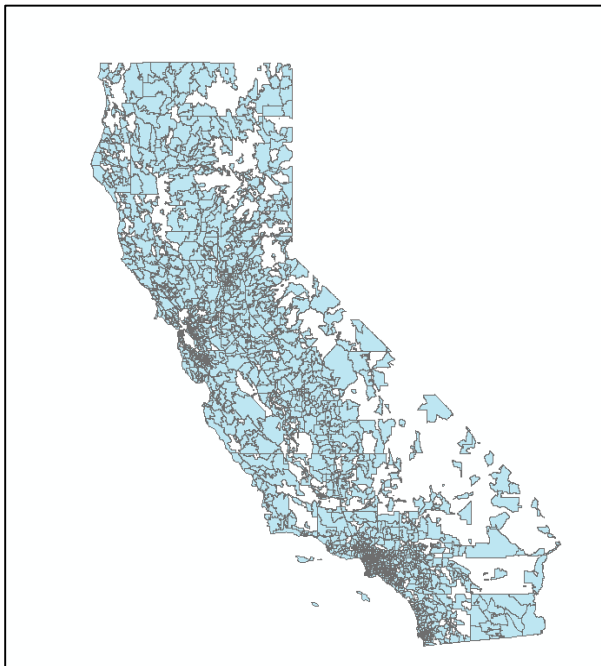
1. Congressional districts of California



2. Zip Codes Tabulation Areas of California



3. Intersecting Congressional Districts map and Zip Code Tabulation Area of California



4. Generating geographic data table by using the map in “3.”

districts103_Intersect1			
STATENAME	DISTRICT	STATEFP10	ZCTA5CE10
California	29	06	90210
California	32	06	90211
California	29	06	90211
California	32	06	90212
California	29	06	90212
California	37	06	90220
California	37	06	90221
California	38	06	90221
California	37	06	90222
California	32	06	90230
California	36	06	90230
California	32	06	90232
California	33	06	90240
California	38	06	90240
California	33	06	90241
California	34	06	90241
California	38	06	90241
California	33	06	90242
California	34	06	90242
California	38	06	90242
California	35	06	90245

Appendix C. the List of Amendments

Abbreviations

- a. cong: Congress
- b. year: year
- c. rc: roll call number
- d. admt: amendment number
- e. amount: dollar amount included in each amendment
- f. Aye: number of Aye
- g. Nay: Number of Nay
- h. note: explanation.

1. Amendments in Authorization bills

cong	Year	rc	admt	amount	Aye	Nay	note
103	1993	412	282	-1,500,000	159	272	Missile defense
103	1993	413	283	467,000	118	311	Missile defense
103	1993	414	284	-229,000	201	227	Missile defense
103	1993	415	285	-1,200,000	182	240	Trident
103	1993	416	286	-1,200,000	187	240	Trident
103	1993	417	288	0	194	231	SOFA
103	1993	418	289	0	285	137	BRAC
103	1993	419	290	-580,000	423	0	overseas operation and maintenance
103	1993	420	291	-500,000	209	216	Europe stationed forces
103	1993	421	292	40,000	171	250	community
103	1993	422	293	40,000	255	160	community adjustment
103	1993	423	294	300,000	151	260	Defense technology investment
103	1993	426	296	30,000	198	211	overseas emergency fund
103	1993	427	297	33,000	198	210	PKO center
103	1993	428	298	0	155	256	civil access to National guard
103	1993	429	299	300,000	149	262	overseas operation and maintenance
103	1993	460	316	0	168	264	don't ask don't tell
103	1993	461	317	0	144	290	foreign relations
103	1993	462	318	0	301	133	insert concern of homosexual
103	1993	463	319	0	405	26	require report
103	1993	468	289	0	291	138	BRAC
103	1993	469	290	-580,000	426	0	overseas operation and maintenance
103	1993	470	293	40,000	265	162	community adjustment
103	1993	471	318	0	295	132	insert concern of homosexual
103	1993	472	319	0	404	23	require report
103	1994	179	555	-200,000	154	271	Missile defense
103	1994	180	556	0	162	250	NATO

103	1994	187	565	0	267	144	NATO
103	1994	188	566	0	226	168	permit for SECDEF
103	1994	189	567	-700,000	165	229	Trident
103	1994	190	568	0	174	217	Army school of America
103	1994	191	569	0	271	125	no fund for university who denied ROTC program
103	1994	192	569	0	124	273	selective service
103	1994	194	572	-84,890	68	361	BRAC
103	1994	195	573	447,000	330	99	C-17
103	1994	196	575	0	190	236	Haiti
103	1994	198	576	0	191	220	PKO
103	1994	217	604	0	414	1	north Korea
103	1994	218	605	0	262	156	CNTB
103	1994	219	608	0	226	192	clarify of language
103	1994	220	609	0	67	349	IAEA
103	1994	221	610	0	413	3	sense for improving ROK
103	1994	222	611	200,000	244	177	budget on Bosnia
103	1994	223	612	0	180	242	urge president to take a necessary step about Bosnia
103	1994	224	574	0	195	225	Haiti
104	1995	369	423	0	244	179	prohibit use of fund until cooperation with Russia
104	1995	370	424	-533,000	202	219	buying B-2
104	1995	371	427	0	212	207	organizational bill
104	1995	372	426	0	419	1	organizational bill
104	1995	373	428	0	184	242	clarify of amendment that compliant to ABM treaty
104	1995	374	429	-470,000	177	250	cut the budget of MD
104	1995	375	430	0	272	156	reduce of personnel, transfer the cost to host countries
104	1995	376	431	0	302	124	restrict use of fund for university that denied to implement ROTC
104	1995	377	432	0	151	276	delete a provision
104	1995	378	433	0	214	213	use of military facilities
104	1995	379	434	0	293	132	exempt of military base from a coverage
104	1995	381	435	-50,000	213	208	Tritum
104	1995	382	436	0	195	230	overseas abortion
104	1995	383	437	25,900	410	14	sensor, optic, joint targeting
104	1996	167	1054	0	191	225	overseas abortion
104	1996	168	1055	0	352	62	require president to seek other options for stopping FMS
104	1996	170	1057	0	202	219	prohibit use of fund for Russia and soviet union

104	1996	171	1058	0	249	170	uniformed services university of the health science / phase out
104	1996	172	1059	0	82	342	various amendment for Foreign assistance and other international issue
105	1997	214	184	-1,231,000	88	332	5% reduction
105	1997	215	185	0	404	14	defense reform act
105	1997	216	186	0	331	88	expert of supercomputer
105	1997	217	187	0	195	224	oversee abortion
105	1997	221	189	-341,400	144	253	eliminate trident
105	1997	222	190	0	248	145	transfer of authority dealing with naval oil
105	1997	223	191	0	289	100	request of report ballistic missile targeted to USA
105	1997	224	192	0	269	118	border mission
105	1997	225	194	0	415	0	prohibit military funeral for criminal
105	1997	226	196	0	414	2	revise authority
105	1997	227	197	4,500	416	0	gulf war illness
105	1997	228	198	-331,000	208	216	Eliminate B-2
105	1997	229	199	0	144	278	change of provision
105	1997	230	200	0	215	205	no cooperation with Russia if transfer ssn22 to china
105	1997	233	204	0	195	231	prohibit use of fund for Bosnia
105	1997	234	203	0	277	148	prohibit use of fund for Bosnia
105	1997	235	204	0	204	218	prohibit use of fund for Bosnia
105	1998	167	639	0	416	4	no satellite tech to china
105	1998	168	640	0	413	7	prevent espionage from china
105	1998	169	641	0	411	6	no transfer missile tech to china
105	1998	170	642	0	363	54	prohibit satellite to china
105	1998	171	643	0	189	232	overseas abortion
105	1998	172	644	0	419	1	avoid Tokyo protocol
105	1998	173	645	0	250	171	prohibit us serviceman in UN rapid deployment
105	1998	178	647	0	419	2	Medicare adjustment
105	1998	179	649	0	178	243	reconnaissance border assignment
105	1998	180	648	0	288	131	border assignment
105	1998	181	650	0	404	9	establish reporting requirement related to nuclear export
106	1999	180	145	0	427	0	counter intelligence
106	1999	181	150	0	159	265	limit of lab by foreigner
106	1999	182	154	0	283	143	no military exchange with PLA
106	1999	183	155	0	227	197	prohibit use of fund for stationing in Haiti
106	1999	184	156	0	202	225	oversea abortion
106	1999	185	157	0	424	0	authorize to participate military members in Thrift saving program

106	1999	186	158	0	242	180	assign border
106	1999	187	160	0	97	327	change of language PKO in Yugo
106	1999	188	164	7,300	302	118	space launch facility
106	1999	189	161	0	269	155	change of language PKO in Yugo
106	1999	190	162	0	115	307	reduce Europe forces by 2002
106	2000	193	714	0	262	153	change of condition to station in Kosovo
106	2000	194	715	-3,090,000	87	330	1% reduction from the bill
106	2000	195	716	0	413	8	shortened the period of waiting of super computer
106	2000	196	717	-472,900	111	312	no more trident
106	2000	197	718	0	242	182	assign border mission
106	2000	198	719	0	424	0	adjustment of healthcare for nuclear worker
106	2000	199	721	0	56	366	repeal the law to convey surplus to local
106	2000	202	725	0	217	200	adjustment of healthcare for nuclear worker
106	2000	203	722	0	194	220	overseas abortion
106	2000	204	723	-20,000	202	214	close the school of America
106	2000	205	724	0	332	85	prohibit contract with agencies related to NK
106	2000	206	728	0	95	321	adjustment of healthcare to military
106	2000	207	727	0	404	10	adjustment of healthcare to military
107	2001	356	316	0	241	171	assign border mission
107	2001	357	317	0	198	216	oversea abortion
107	2002	141	474	0	171	242	permanent elimination of program
107	2002	142	472	0	361	52	cooperation with Russia
107	2002	145	475	-54,000	158	252	spaced based missile defense
107	2002	153	478	0	201	214	oversea abortion
107	2002	154	479	0	231	182	assign border mission
107	2002	155	480	0	263	151	no fund for ICC
107	2002	156	481	2,500	410	2	national guard athletic fund
108	2003	205	139	0	252	174	change of the act
108	2003	206	140	0	250	178	dispatch service members to border conflict
108	2003	215	141	0	200	227	abortion overseas
108	2003	216	142	-21,000	198	226	transfer of money for RDT&E
108	2003	217	144	0	411	11	require of report on attacks on US armed service member
108	2003	218	146	0	302	122	repeal the statutory for attach in France
108	2003	219	151	0	207	216	repeal the regulation about computer export
108	2004	196	532	0	231	190	dispatch service members to border conflict
108	2004	197	533	0	201	221	abortion overseas

108	2004	199	534	0	415	4	sense for abuse of person in custody
108	2004	200	539	0	162	258	eliminate the delay of BRAC
108	2004	201	535	0	307	114	sense for helping Iraq to destroy Abu Grharib
108	2004	202	538	0	409	0	request a plan for preventing sexual harassment
108	2004	203	540	-36,577	203	214	transfer of money for RDT&E
108	2004	204	543	0	289	132	require a program for exchange military official with Taiwan
109	2005	214	206	0	245	183	dispatch service members to border conflict
109	2005	215	208	0	412	16	clarify of term related to boy scout
109	2005	216	209	0	193	233	abortion overseas
109	2005	217	210	10,000	427	1	for supersonic cruise missile
109	2005	218	211	0	336	91	prohibit grant for the Univ. denying ROTC program
109	2005	219	213	0	112	315	delay of procedure
109	2005	220	214	0	127	300	request of plan for withdrawal from Iraq
109	2006	136	805	0	190	237	epidemiological study on human living in munition disposal area
109	2006	141	814	0	252	170	dispatch service members to border conflict
109	2006	142	819	-4,747,000	123	301	missile defense
109	2006	143	806	0	414	9	consideration of duration of reservist
110	2007	364	186	0	202	216	no more Iraqi war operation
110	2007	365	187	0	136	388	clarify of term
110	2007	366	188	0	119	303	request a test cold war weapon
110	2007	367	193	-1,084,000	127	299	missile defense funding reduce
110	2007	368	194	746,000	199	226	missile defense funding increase
110	2007	369	196	0	201	219	clarify of term
110	2007	370	197	0	220	208	request a report about Guantanamo
110	2007	371	198	0	199	229	videotaping interrogation
110	2008	355	1048	193,000	128	287	future combat system
110	2008	356	1050	719,000	186	229	missile defense agency
110	2008	357	1051	-966,200	122	292	missile defense system
110	2008	358	1052	10,000	145	271	nuclear warhead
110	2008	359	1055	0	234	183	no sofa with Iraq
110	2008	360	1057	0	245	168	request a report about Iraqi operation
110	2008	361	1061	0	240	168	legal definition of contract
110	2008	362	1062	0	218	192	video and recording interrogation
110	2008	363	1063	0	220	189	release information
111	2009	453	262	0	138	278	request for report about exit strategy
111	2009	454	263	0	224	190	disclosure of information
111	2009	455	266	12,000,000	171	244	missile defense by offsetting from c1
111	2009	456	267	0	186	226	disclosure of information

111	2009	457	270	0	224	193	video taping
111	2009	458	274	0	416	0	clarify the limit with other agencies policy
111	2010	310	654	0	421	0	clarify the terms
111	2010	311	657	0	424	0	consideration for special uniform
111	2010	312	659	0	341	85	consideration for obesity for recruitment
111	2010	313	662	0	410	8	sense for fair competition bid
111	2010	314	665	0	372	52	restrict on contract with BP
111	2010	315	666	0	218	210	request for cooperation of international community to GAO
111	2010	316	661	-489,000	193	231	F-35 second engine
111	2010	317	672	0	234	194	don't ask don't tell
111	2010	318	667	0	253	172	change of rule for contract
111	2010	333	676	0	416	1	11 program enactment
112	2011	343	302	-564,682	83	334	V22 for navy and AF
112	2011	344	305	-10,000	203	213	fund for veterans kid
112	2011	345	308	0	198	225	change of the Contractor rule
112	2011	346	309	0	208	212	change of the Contractor rule
112	2011	347	310	0	261	163	change of the Contractor rule
112	2011	348	311	0	168	256	change of the Contractor rule
112	2011	349	312	0	176	248	change of the Contractor rule
112	2011	350	313	0	184	240	change of the Contractor rule
112	2011	351	314	0	191	232	change of the Contractor rule
112	2011	352	315	0	178	246	change of the Contractor rule
112	2011	353	317	-310,000	177	246	prohibit use of fund for a shipyard
112	2011	354	318	0	260	160	rules of engagement
112	2011	355	320	0	246	172	for national guard in SW
112	2011	356	322	0	165	253	prohibit use of fund for transfer accused personnel other than us citizen
112	2011	357	323	0	246	173	military tribune for terrorist
112	2011	358	324	0	91	329	for full maintenance of military aircraft in civilian cite
112	2011	359	325	0	227	193	clarify of term
112	2011	360	326	-1,500,000	172	246	adjust for cyber command fund
112	2011	361	327	0	187	234	strike one section
112	2011	362	328	-14,923	63	354	termination of program
112	2011	363	329	0	98	321	reduce the personnel
112	2011	364	330	0	123	294	about troop withdrawal (plan)
112	2011	365	332	-1,300,000	96	323	cut personnel in Europe
112	2011	366	333	0	416	5	do not use fund for Libya
112	2011	367	334	-348,256	269	151	Mission Force Enhancement Transfer
112	2011	368	335	-2,018,619	176	241	termination of program
112	2011	369	336	-100,000	184	234	missile defense

112	2011	370	339	0	419	0	designated day
112	2011	371	342	0	300	120	request a report
112	2011	372	343	-43,000	226	194	fund for USIP
112	2011	373	344	0	204	215	giving authority to the president to track down Al Qaeda

2. Amendments in Appropriation bills

cong	year	rc	admt	amount	Aye	Nay	note
103	1993	477	326	-1,200,000	177	248	trident 2
103	1993	478	333	-2,900	173	256	army school of America
103	1993	479	334	-2,400	190	241	national board for the promotion of rifle practice
104	1995	639	750	-493,000	209	213	airplane procurement
104	1995	640	751	-1,000,000	125	293	delay of development of F22
104	1995	641	753	0	193	224	detailed or modified version of abortion prohibit
104	1995	642	752	0	226	190	prohibit of abortion in military medical center
104	1995	643	768	-2,500,000	92	325	10% reduction for NFIP
104	1995	644	769	-7,500,000	123	296	3% reduction
104	1995	645	767	0	181	238	contractor not use fund for political purpose
104	1996	239	1156	-508,000	395	25	cut the budget
104	1996	240	1158	-404,000	142	285	navy shipbuilding
104	1996	241	1160	-314,100	125	299	c-130
104	1996	242	1161	-1,000,000	118	307	f-22
104	1996	243	1162	0	100	319	set the limit of amount of money
104	1996	244	1163	-6,572,000	147	265	cut the budget
104	1996	245	1164	-11,000,000	193	219	limit to 1996 level
104	1996	246	1167	-144,000	189	208	spaced based missile defense
105	1997	336	290	-331,000	199	222	stop buying B-2
105	1997	337	300	-4,300,000	136	290	limit budget to level of FY 1997
107	2002	269	515	-121,800	111	313	construction of missile silo
108	2003	334	205	-370,427	57	357	prohibit use of fund for BRAC
108	2004	283	598	0	201	218	prohibit use of fund for a certain rule
109	2005	283	328	0	197	210	request of report on proselytizing AFA cadet
109	2005	284	330	0	83	329	prohibit use of fund for Uzbek
109	2005	285	331	0	135	280	prohibit use of fund for additional conflicts
109	2005	286	333	0	179	235	relinquish limit set biome demo act

109	2006	295	1065	0	206	219	prohibit use of fund for unauthorized e-surveillance
109	2006	296	1059	0	50	375	prohibit use of fund for further negotiation about basing in Iraq
109	2006	297	1062	-50,000	141	284	prohibit use of fund for DTS
109	2006	298	1066	-1,000	77	346	prohibit use of fund for mystic aqua center
109	2006	299	1067	-1,400	69	351	prohibit use of fund for Jason foundation
109	2006	300	1072	0	157	262	limit the purpose of operation in Iran
109	2006	301	1074	-100,000	152	268	prohibit use of fund for Lincoln group, PR
109	2006	302	1075	-2,500	56	368	prohibit use of fund for NW manufacturing initiative
109	2006	303	1077	-4,000	50	372	prohibit use of fund for Lewis education center
109	2006	304	1079	-20,000	62	362	prohibit use of fund for Leonard wood research institute
110	2007	456	255	-79	379	45	fund for secretary
110	2007	457	256	-300	381	41	fund for secretary
110	2007	466	258	-8,961	108	300	fund for secretary
110	2007	467	257	-1,241	216	198	fund for secretary
110	2007	468	259	-138	248	168	fund for secretary
110	2007	838	769	0	148	259	delete anti competition clause
110	2007	839	770	-2,500	94	311	reduction in presidio fund
110	2007	840	772	-97,200	161	249	missile defense
110	2007	841	775	0	126	284	restrict use of fund based on race and other reasons
110	2007	842	776	-2,000	91	317	paint shield
110	2007	843	780	-1,500	98	312	Doyle center
110	2007	844	781	-3,000	57	353	Lewis education center
110	2007	845	782	-39,000	109	301	national drug intelligence center
111	2009	661	392	-368,800	269	165	for more F-22
111	2009	662	394	-160,000	48	373	prohibit use of fund for drug
111	2009	663	396	-80,000	124	307	for requiring submitting report
111	2009	664	397	-5,000	77	347	Enhanced Navy Shore Readiness Integration
111	2009	665	398	-5,000	69	351	reduced manned situation awareness system
111	2009	666	400	-3,000	76	350	gulf range instrumental
111	2009	667	401	-1,500	82	341	ultra low ear
111	2009	668	402	-2,500	78	348	AARGM Counter Air Defense Future Capabilities

111	2009	669	403	-2,500	83	338	an/slq 25
111	2009	670	404	-200,000	118	241	mostly
111	2009	671	405	-1,300,000	82	342	533 amendment
111	2009	672	406	-3,000	81	353	for rapid deployment shelter
111	2009	673	407	-1,500	99	338	for medal of green laboratory
112	2011	43	13	-415,038	105	326	navy:21985, AF: 393098
112	2011	44	14	-115,520	109	320	alterative energy program
112	2011	46	16	-450,000	233	198	navy:225000, AF: 225000 (R&DTE)
112	2011	48	18	-1,500,000	133	299	eliminate Iraq Security Force Fund
112	2011	59	37	-24,032	130	301	Selective Service System
112	2011	80	77	-511,515	91	339	##prohibit use of fund for EFV, V-22 Osprey(415038+12000+84477)
112	2011	90	92	-800	148	281	Prohibit DoD sponsor NASCAR racing
112	2011	91	93	-500,000	98	331	Limit of fund for operation in Afghan to no more than 10000000
112	2011	102	109	-31,931	123	306	Prohibit use of fund for EFV and Missiles 19931+12000
112	2011	105	115	-18,000,000	68	357	3.5% of defense/ Homeland Security
112	2011	106	116	-91,000	74	348	Prohibit use of fund for beach replenishment-Army Engineering Corp
112	2011	116	128	-240,000	241	184	Prohibit use of fund for USJFC
112	2011	118	130	-278,000	74	351	Prohibit use and reduce of fund for maintaining military personnel strength
112	2011	128	150	-35,200,000	76	344	Prohibit use of fund for DoD in excess of amount available 2008
112	2011	495	506	-10,000	175	241	for RDT&E
112	2011	496	507	-216,556	87	328	for secretary
112	2011	497	508	-15,000	152	266	for Environ Sec tech
112	2011	498	509	-3,600	253	167	for gulf war illness from o/m
112	2011	499	516	-197,023	98	322	next generation bomber
112	2011	500	520	0	212	208	change of rule
112	2011	501	522	0	217	204	change the rule
112	2011	502	525	-33,000,124	97	322	combat operation in Afghan
112	2011	503	526	-20,887,651	133	295	combat operation in Afghan
112	2011	504	528	-15,000	174	251	for insulating shelter
112	2011	505	529	-1,000,000	131	297	reimburse to Pakistan
112	2011	506	530	-5,000,000	114	314	overseas contingency plan
112	2011	507	531	-200,000	210	217	Afghan infra fund
112	2011	508	532	-475,000	145	283	Afghan infra fund
112	2011	509	534	-4,000,000	119	306	Afghan infra fund

112	2011	510	537	-1,000,000	140	285	Counter insurgency in Pakistan
112	2011	511	538	-124,800	226	201	reduce from all bill including army band
112	2011	512	539	-20,000	167	260	NASCAR
112	2011	513	542	0	225	201	change of the purpose (Libya)
112	2011	514	543	0	199	229	prohibit fund for commissary in NJ
112	2011	515	544	0	176	249	prohibit fund for Libya
112	2011	516	546	0	248	175	prohibit use of fund for guy marriage
112	2011	517	550	-17,192,000	135	290	cut from this act not to be derived from title ix (COP)
112	2011	518	553	0	316	111	prohibit use of fund in contravention with war power act
112	2011	519	554	0	89	338	prohibit use of fund for Pakistan
112	2011	520	555	0	162	265	prohibit use of fund for Libya
112	2011	521	559	-200,000	169	257	commanders emergency response fund
112	2011	522	562	0	256	170	change of rule
112	2011	523	563	-8,500,000	181	244	cut from this act
112	2011	525	566	-250,000	39	380	cut from the act
112	2011	526	567	-3,577,192	118	295	cut form COP
112	2011	527	569	-730,000	100	321	RDT&E but not specific
112	2011	528	573	0	236	184	prohibit use of fund for chaplain
112	2011	529	575	-482,046	113	307	not use fund for Europe end strength over 30000
112	2011	530	579	0	169	251	prohibit use of fund for operation in Libya